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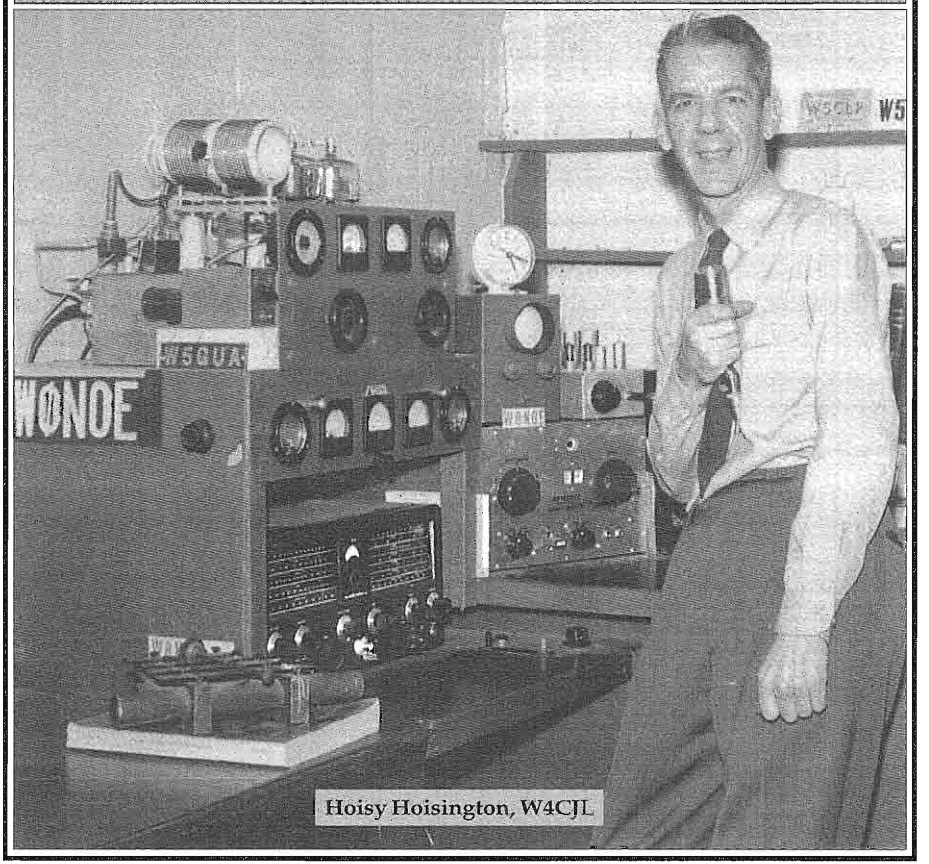
ELECTRIC RADIO

celebrating a bygone era

Number 167 April 2003



Hoisy Hoisington, W4CJL

ELECTRIC RADIO

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Electric Radio is dedicated to the generations of radio amateurs, experimenters, and engineers who have preceeded us, without whom many features of life, now taken for granted, would not be possible. Founded in May of 1989 by Barry Wiseman (N6CSW) the magazine continues publication primarily for those who appreciate the intrinsic value of operating vintage equipment, and the rich history of radio. It is hoped that the magazine will also provide inspiration and encouragement to collectors, restorers and builders.

We depend on our readers to supply material for ER. Our primary interest is in articles that pertain to vintage equipment and operating with a primary emphasis on AM, but articles on CW, SSB, and shortwave listening are also needed. Photos of Hams in their radio shacks are always appreciated. We invite those interested in writing for ER to write, email, or call.

Regular contributors include:
Bob Dennison (W2HBE); Dale Gagnon (KWll); Chuck Teeters (W4MEW); Bruce Vaughan (NR5Q); Bob Grinder (K7AK); Jim Hanlon (W8KGI); Brian Harris (WA5UEK); Tom Marcellino (W3BYM); John Hruza (KBØOKU)

Editor's Comments

The first item for this month is an announcement. The address for all Electric Radio mail has changed. The new mailing address is posted inside the rear cover, and is as follows: Electric Radio Magazine, PO Box 242, Bailey CO, 80421-0242. Please make a note of it. This change will allow me to be closer to the ER office.

The first annual ER Dynamotor Night was held March 1st. At the last minute I had something come up that unfortunately prevented me from getting on the air. I've heard from several participants who operated during the event, and I would like to share their comments.

Tony (WA6IOF) wrote to say "...Thank you for organizing Dynamotor Night. Being one who enjoys the mechanical aspects of our hobby, the name alone impressed me as a function I wanted to participate in. I've been licensed since 1971 and this was the first on the air activity I purposely planned for and joined in. I used a GRC-9 complete with its original 15-foot vertical and ground radials, and set it up outside. I worked the CW Portion of the event. In the early evening the band was noisy. Later the noise level dropped and I was able to copy many other stations. About 9PM I heard two stations related to the event, and one called CQ using the term "Dynamotor". I answered and had a nice conversation with KDØHG who was using an ART13. I then listened for the second station on frequency, but I did not hear it. It took me about 2 hours to set everything up, and I was listening and calling CQ Dynamotor from 8PM until 10:30PM. It was 40 degrees when I shut everything down, but I had a great time copying many CW stations that were not part of the event, and actually talking to the one station that was. My signal report from KDØHG was weak (R=2, S=2), but the tone got a 9. Thank you again for organizing the event.

Bill (N9TT) worked Ted (W3PWW) in Hanover, PA and Bill (KDØHG) in

[continued on page 2...]

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Cover: Silent Key Hoisy Hoisington (W4CJL) in 1957, taken while he was working at KCRB in Chanute, Kansas. In front of him is one of his home-brew rigs running 4-400s modulated by 304TLs. A nearly-new Hallicrafters SX-71 is doing the receiving.

Longmont, CO from his QTH in Fountaintown, IN. He was using his BC-375 running on the PE-175 dynamotor, and the receiver was a BC-312.

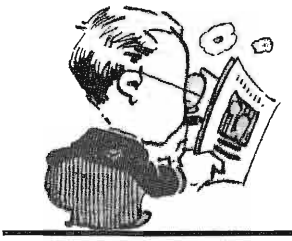
Ted Young (W3PWW) is the East Coast Military Radio NCS and had a few excellent suggestions. Ted wrote to say "...Instead of one night, how about a Dynamotor Weekend? We could start at 0500 EST on Saturday morning after our net, and run until 2400 hours EST on Sunday...We should also come up with more frequencies and bands for participants to monitor."

I think these are excellent suggestions, and we will run Dynamotor Weekend this fall. We will work further on times and frequencies and make an announcement in a future issue of ER. In an upcoming issue this summer we will be running an article on a low-cost modulator that will be perfect for use with a command set transmitter.

Finally, I am definitely planning to continue Vintage Field Day. I think the best day will be the 7th of June. Next month, in May ER, I'll have the details after discussing the best plan with everyone.

Keep those filaments lit!

73, NØDMS



AM International – April 2003 Update

by Dale Gagnon, KW1I
AMI President

Hamvention 2003, Dayton Ohio – The AM Forum will be Friday, May 16 at 10:45 a.m. in Meeting Room #4. The program is still under development. The program description will be posted to the bulletin board at the AM Window website (http://www.amwindow.org/wwwboard/wwwboard.html) in mid-April. A good strategy for Friday at the Hamvention is to arrive early to get a good parking space near the Hara Arena, start flea marketing at 8:00 am when the outdoor exhibit area opens, and then take a break for the AM Forum at 10:45. Our program is designed to last about an hour allowing rapid re-entry to the flea market or a few minutes connecting with the other AM'ers before the next forum starts at 12:15. AM ops will again gather at Marions Pizza Restaurant for dinner on Saturday evening, May 17 at about 7:00 pm. Marions is right off I-75 Exit 57 at Wagoner Ford Road. Remember to bring pictures of your shack, your current homebrew project or some item of radio nostalgia to add to the conversation. For those interested in military radios, there is a backpack / portable radio AM net that meets on 3885 kHz at 12 noon Saturday, May 17 in the flea market. For questions about the AM events at Hamvention 2003 send mail to aminternational@earthlink.net.

ER

A Homebrew Shortwave Broadcast Receiver

by Bob Dennison, W2HBE
82 Virginia Ave.
Westmont, NJ 08108

In the past, all my receivers have been designed to cover the ham bands. About a year ago, I began corresponding with a fellow experimenter in California who is not a ham but enjoys listening to shortwave broadcasts. So when the "bug" bit me to build another radio I decided that this receiver must cover the principal shortwave broadcast bands. In remembrance of the good old days, I felt that this set should use tubes that were popular in the pre-war era. After consulting many old radio handbooks, the RCA tube manual and my stock of tubes, I arrived at the following tube line-up: A 6C6 regenerative detector, a 6C5 audio amplifier and a type 41 output tube. Fortunately, I had an old-time tube shield for the 6C6 and some four, five and six prong tube sockets. I even had a National grid cap connector.

In the early stages of this design, I had to decide whether to employ plug-in coils or band-switch plus built-in coils. If you decided on the band-switch, you must consider and solve several problems: (1) should coils be below or above the chassis? (2) How to arrange the coils so as to minimize the lengths of connecting wires and (3) will adjustments or changes of one coil affect the tuning or Q of any other coil? After much thought, I opted for the plug-in coils. A friend had given me three small 4-prong coil forms so I chose the easy way out. The first coil initially had too many tickler turns. This coil was unplugged, modified, retested, unplugged, modified, and retested many, many times before finding that only three turns were required. If this coil had been a below-chassis coil connected to a band switch, I would still be

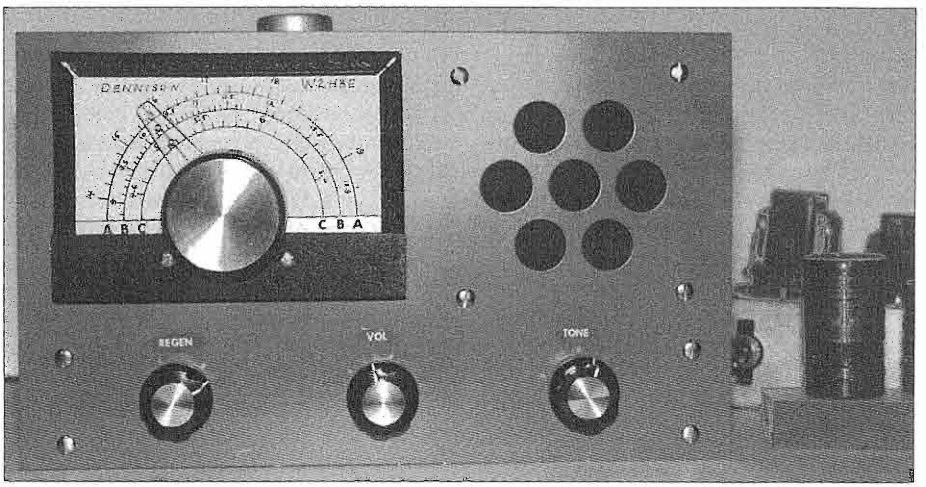


Figure 1 is the front-panel view of the classic W2HBE shortwave receiver. To the right are finished coil sets, pictured just ahead of the power supply described in Electric Radio #164, January 2003.

Figure 2 presents the rear view of the homebrew shortwave receiver. The locations of major components are clearly indicated, from the type 42 output on the left, to the plug-in coil and tuning condenser on the right.

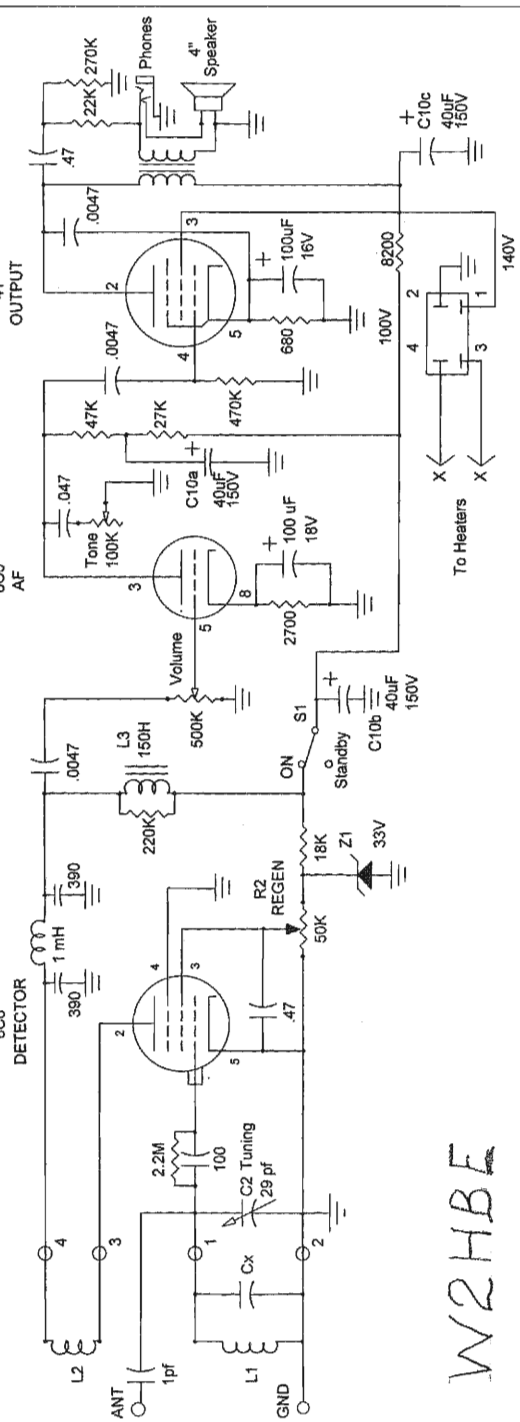
working on it!

With the tube line up settled and the decision to use plug-in coils, I could now start on a wiring diagram. First a few more choices had to be made. Refer to the schematic on page 5. The easiest way to control regeneration is to vary the screen voltage. Here, R2 is the regen control. Since pentodes like the 6C6 have a very high plate resistance, the plate load must offer high impedance so we use a high inductance (150H) choke at L3. A switch, S1, allows us to silence the radio while changing coils.

Oh yes, by now you've noticed Z1. Yes, I admit it - it is a zener diode. When I started this set, I wanted every part to be typical of what was common in the mid-1930s. Thus, I could have used a battery, a neon bulb or a VR tube. But the zener diode is so cheap, so tiny and so perfect in its ability to regulate voltage it was irresistible.

Finally, we come to the audio stages. Nothing new here. I needed a tone control because I would be listening to the short-wave broadcast stations with their mixture of voice and music. The phone jack disconnects the loud speaker when phones are used. The output transformer is available from Radio Shack.

On the rear apron of the chassis is a male 4-prong Jones connector. The power supply is a separate unit and was described in the January 2003 issue of ER. Keeping the power supply off the receiver chassis is beneficial in cutting down hum and reducing frequency drift due to heat. You will need to make a cable to connect the receiver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DETECTOR
6C5
AF
41
OUTPUT
ANT
GND
L1
L2
Cx
C2 Tuning
29 pf
100
2.2M
1pf
1 mH
390
.0047
220K
L3
150H
500K
Volume
Tone
100K
.047
47K
27K
470K
C10a
40uF
150V
100 uF
18V
2700
680
100uF
16V
100V
8200
140V
C10b
40uF
150V
C10c
40uF
150V
S1
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Speaker
To Heaters
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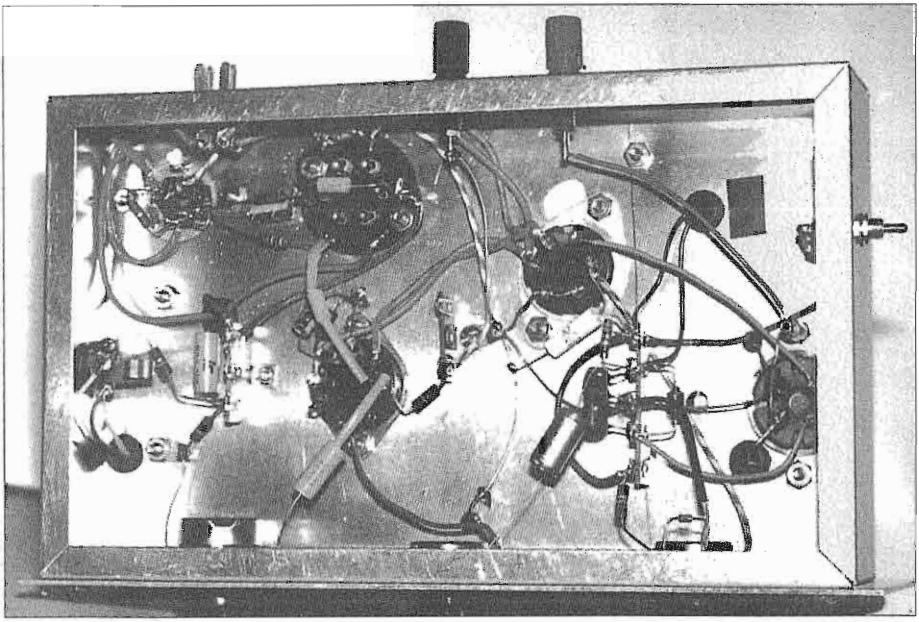

Figure 3 is a view underneath the chassis. To duplicate the performance of this receiver, builders are advised to follow the author's parts layout and wire routing.

to the power supply. Mine is about three feet long with a Jones P-304-CCT plug at one end and a Jones S-3O4-CCT socket at the other end. Ordinary AC line cord can be used for the 6.3-volt filament wire (pins 3 and 4). The cable should be laced with waxed cord to give it a neat appearance.

The Variable Capacitor

Since this is an old-time (1930s) radio we will call C2 a tuning condenser. These are scarce. Check with your friends, and look under the tables at the hamfests and flea markets. On my condenser, I removed all but one of the rotor plates. Thus modified, it had a range of 7-29 pF. I placed two 5/8 inch threaded pillars below it, which brought the center of the shaft 1 3/4 inches above the chassis. This will determine where the holes for the dial should be made. If you use a different capacitor or dial, line them up carefully. A single flexible coupling will suffice if you are very careful.

The Tuning Dial

National RF, Inc makes this dial. It is similar in appearance to the old National ACN series. However, this dial must be mounted about 3/32 inches in front of the panel so that the three plastic extrusions that hold the dial scale and its acetate cover can be pushed into place.

Coils

Several are provided to cover three shortwave broadcast bands. Coil No.1 covers the 49 and 60-meter bands. Coil No.2, the 25 and 31-meter bands. Coil No.3, the 16 and 19-meter bands. See the coil-winding chart for frequency coverage. To calibrate the dial of your receiver, you will need a signal generator. It will be helpful but not necessary to have either a calibrated short-wave receiver or a frequency counter.

Construction

This set is built on a 10x6x2 inch

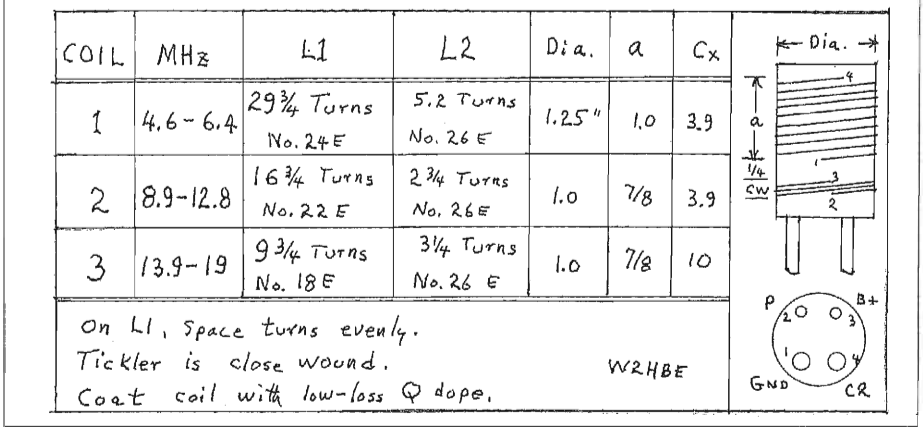

Figure 4 details the coil-winding chart for the W2HBE shortwave receiver. Three coils are required to cover the 75, 60, 49, 31, 25, 19, 16, and 15-meter shortwave broadcast bands. It is necessary to build the coils carefully, following the author's design, in order to secure the proper tuning ranges. These coils are not difficult to build if enough time is taken in their assembly.

aluminum chassis and the panel is made of .062-inch aluminum. It doesn't show in any of the photos, but a steel angle bracket was used to stiffen the panel. You could use a thicker panel but the bracket is cheaper and involves less work. This bracket is located near the center of the chassis. It is attached to the panel with 6-32 flat head screws, which are hidden behind the dial. Seven three-fourths inch holes provide an opening for the loudspeaker. After all the holes were cut and deburred, the panel was washed, degreased and painted. I used Krylon No. 1318 Gray Primer followed by Krylon No. 1608 Smoke Gray.

A thin piece of cardboard covered with black cloth was placed between the panel and the speaker. Dry-transfer lettering was used to label the panel controls. Other labels such as tube types, ANT and GND were typed on paper and glued in place.

Conclusion

It is great fun exploring the shortwave bands. You will hear foreign languages, exotic music, sermons, news, time signals, frequency standards and many religious programs. Take your pick and let it play while you go about cleaning up your workshop. Now where did I put that old Kurz-Kasch dial?

ER

Remembering Hoisy

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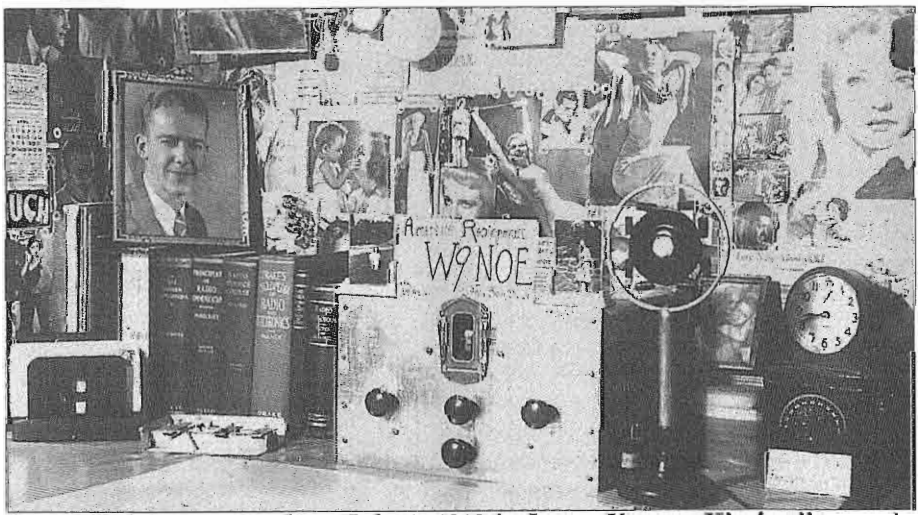
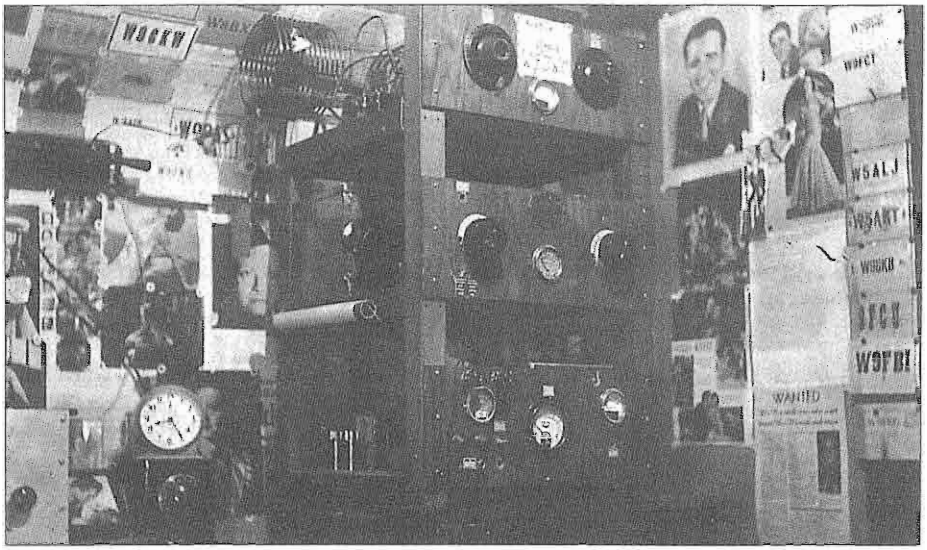
Fred Cresce, KC4MOP
Bob Dennison, W2HBE
Eric Jones, N4TGC
Barry Wiseman, N6CSW
Dalton McCrary, W4PJV

Many of us were saddened to read the Editor's Comments in February Electric Radio announcing the passing of Don "Hoisy" Hoisington (W4CJL) of SPAM fame. Whether or not you're a supporter of raising sideband peaks to levels such that they would be less than 6 dB below their component carrier, you've got to admire this man's passion & zeal for doing so. In tribute, SK John Mohn (W5MEU) would often refer to Hoisy as "Noisy Hoisy." Hoisy used the airwaves, articles in amateur radio journals, and the organization he founded, Society for the Promotion of AM (SPAM), to articulate his message.

"Hoisy," as he was popularly known, was a mover & shaker, and indeed a friend to many as evidenced by comments made by Gary Taylor (WB8BEM) in February ER. Who was this man Hoisy? What did he contribute to Amateur Radio? These questions and more were answered by AMI President Dale Gagnon some years ago at a gathering of AM operators at the QTH of Renato



Duane Hoisington was born July 1, 1910 in Leota, Kansas. His family was in the newspaper business, and Hoisington, Kansas was named for Hoisy's grandfather, AJ. AJ Hoisington started the Greatbend, Kansas newspaper in 1880. This photograph was made in April, 1934, after Hoisy had been issued W9NOE while living in Salina, Kansas. Five months later, Hoisy had moved to Tempe, Arizona to attend Arizona State College. (photo courtesy Bill Hoisington)

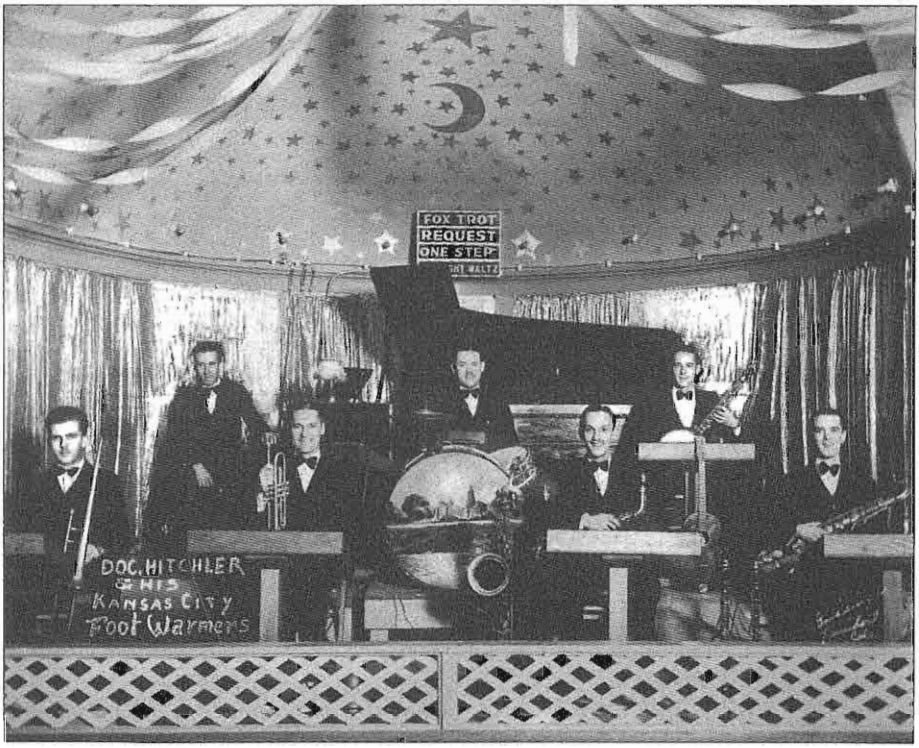


Hoisy issued himself the call sign of W9BII in 1929. In January, 1930 he received the call W9DWH from the FCC, and this photo shows his original station on Jewell Avenue in Salina, Kansas. Perhaps a few old-timers will recognize the QSLs that decorate the walls of Hoisy's first shack. (photo courtesy Bill Hoisington)

Salcedo (KG6NH) in Los Angeles. Dale did a replay of his first Dayton Hamvention slide show in which he narrated the radio personality of each photo contributor. Read now his comments about W4CJL:

"This is the famous Don Hoisy Hoisington, operator of station W4CJL in Florence, Alabama. Hoisy first became interested in radio in 1922 with the construction and operation of crystal sets. In 1925 he logged in over 35 radio stations from Salina, Kansas. In 1929 he build a 10-watt, modulated self-excited oscillator using Heising modulation, and he operated it illegally until January, 1930 when a regular license, W9DWH, was issued. In March of 1932, Hoisy moved his little 10-watt modulated oscillator out of the 160-meter Ham band to 1540 kHz, just past the high frequency edge of the broadcast band in those days. Selecting the experimental call sign W9XBR for his station in Salina, Hoisy began rebroadcasting the signals of WMAQ in Chicago. Listeners were invited to send in reception reports, and he was quite surprised to find that 35 DX reports came in during the first week! W9XBR was being reported from New York, Texas, Illinois, Colorado, Wisconsin and elsewhere, despite the poorly modulated, low-powered transmitter. In ten days Hoisy even heard from Grand Island, Nebraska but it wasn't a reception report! The letter was from the FCC and contained a number of violation notices. Hoisy lost his Ham license (W9DWH) for a year, a high price to pay for his brief career in home broadcasting.

He was issued W9NOE in 1933. 1934 brought a move to Tempe, Arizona and was issued the call W6LPH, as during this period the government required a call sign prefix number to match the station location. The W4CJL call sign followed years later when Hoisy grew his family in the South where he worked a total of 46 years in the broadcast industry. He retired as the manager



Hoisy was also a talented musician, and in the summer of 1929, at the age of 19, he was touring with Doc Hitchler and his Kansas City Foot Warmers. The Foot Warmers were a regional dance band from Kansas City. A fellow named Lawrence Welk was a member of this band for 2 weeks early in 1929. This photograph was taken at the Rainbow Gardens Ballroom in Trinidad, Colorado shortly before the band left for Texas, where they had a contract to play a chain of hotels. Hoisy is seated on the right in the top row, holding his Banjo. "Doc" Hitchler was the band leader and drummer. He is seated in the center at his drumset. Other musicians in the band were Don Teege and Fred Bates on 1st and 2nd Saxophone, Bill Surie on Trumpet, Bill Robertson with the sliphorn (Trombone), and Sewell Barker on the 88s, or the piano. In Plainview, Texas the band started arguing and kicked Doc Hitchler out and hired a new drummer and piano player. Aparently they finished the tour in the fall and winter, but Hoisy did not tour with them in 1930. (photo courtesy Bill Hoisington)

and chief engineer for several AM and FM broadcasting stations."

Hoisy was no appliance operator. As a broadcast engineer he acquired various surplus transmitting tubes, like the 4-1000A tetrode amplifier. These proliferated throughout his station in the form of high-powered final amplifiers and modulators that he built.

Many will remember the set of red chimes displayed above the W4CJL operating position. "I've used these since 1934 as an ID," Hoisy said. They were part of his colorful and humorous personality. Not too far away from the red chimes hung a pistol with a caption reading "For noisy neighbors who have TVI problems." Hoisy was a fun friend

to many who knew him.

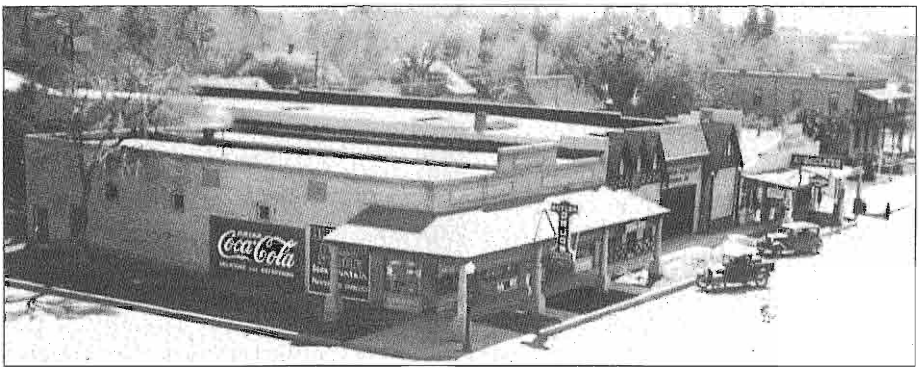
Mailings from this dear person were always a surprise. One never knew how the envelope would be addressed. His favorite title to bestow was "Cheap Engineer of Radio Station, ...or His Excellency Roberto."

The quality of station W4CJL would always bespeak excellence. No wandering AM carrier here! A Viking Valiant II was used to excite most all of the final amplifiers and maintained its frequency stability with crystal control. Its stable source included over 30 crystals used in a variable crystal oscillator circuit that provided a variance of 5 to 8 kc for each crystal. This configuration provided the capability to operate crystal control over a wide band of frequencies.

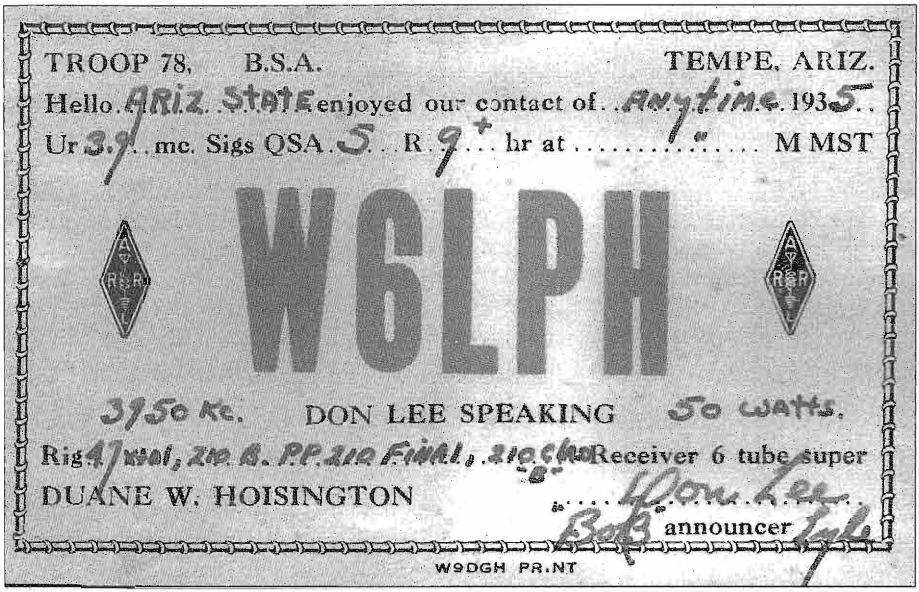
Decades before the East Coast Sound, Hoisy was a strong advocate of audio processing, both high and low. His articles on various high level techniques are familiar to many old timers. It was this passion that fueled his founding of SPAM in 1967, not to be confused with the current cyberspace nuisance.

One of the big interests of Hoisy's life was Super Modulation, a subject not always easy to describe over the radio. Radio & Television News for February, 1950 had a comprehensive article entitled, "Understanding Super Modulation." It provided a circuit diagram of a low-powered super-modulation rig. Hoisy designed a high-powered version using 4-100A tubes for the final RF amplifier and modulator. A schematic of the improved system was soon made available to SPAM members. It was identified as the "Taylor Super Modulated Final."

There appears to exist a controversy regarding the meaning of the acronym SPAM. I fully believe that Hoisy in-



By February, 1934 Hoisy had become a Sergeant in the National Guard at the Headquarters Battery of the 130th Field Artillery, Hutchison, Kansas. He had also finished his training at the Port Arthur College in Texas, where he studied Radio Engineering. In the fall of 1934 he moved to Tempe, Arizona and got the call sign of W6LPH, as Arizona was in the 6th call district at the time. He enrolled at the Arizona State Teachers College on September 6th, and got a $12.00 break on his tuition for his defense work in the Guard. This made his total tuition bill $10.00, plus one free meal a day, a valuable benefit in 1934! This photo was taken out of the window of his rooming house on a hot summer afternoon in Tempe, Arizona where W6LPH was installed. It is looking toward 6th Street and Mill Avenue at the Butler Drug Store, where he had a part-time job as a "soda jerker." He majored in Psychology at Arizona State. He was still enrolled at Ariziona State in 1936, but took time off for his first job in broadcast radio at KOY in Phoenix, Arizona in 1935. (photo courtesy Bill Hoisington)



While Hoisy worked at KOY in Phoenix, Arizona, he began using the name of "Don Lee" when he would do the announcer's job. Here is his W6LPH QSL card from 1935, showing his rig having a type 47 crystal oscillator, and 210s in the modulator and PA. He also became active in the Boy Scouts, teaching radio at summer camp. (QSL and hamfest ticket courtesy Bill Hoisington)

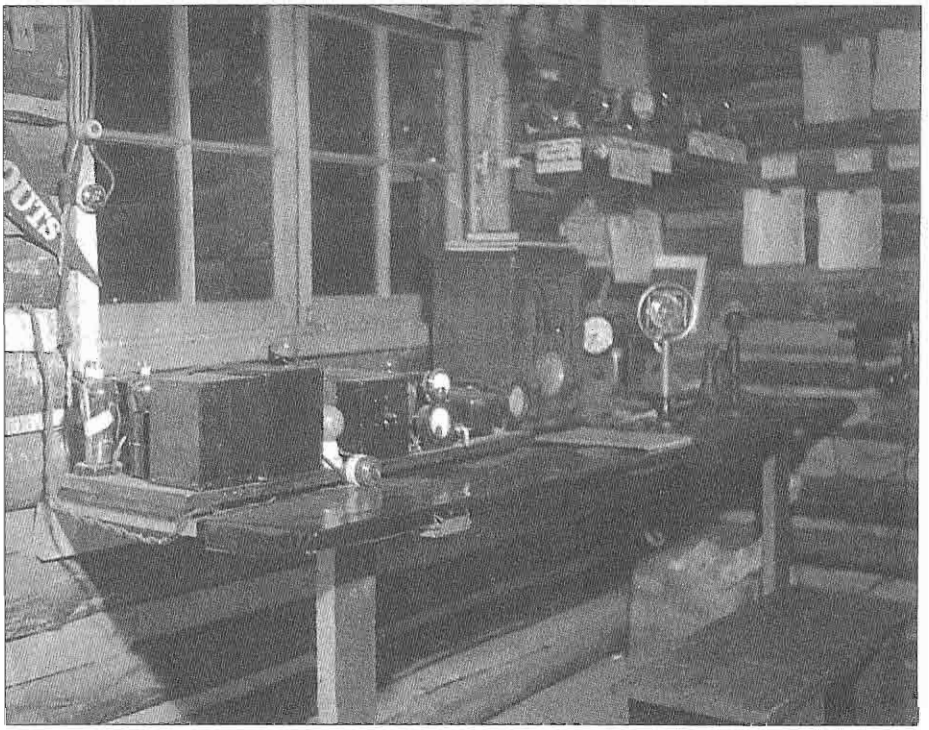
tended it that way. The launch of SPAM identified the organization as "Society for the Promotion of AM." Occasional SPAM flyers identified it as "The Society For The Promotion Of Advanced Modulation." Floyd A. Dunlap (WA5TWF) was the succeeding president, and called it the "Society for Promotion (and Preservation) of Amplitude Modulation (A Quality Communications Medium)". You be the judge.

I guess it's only logical that Hoisy would investigate double sideband-reduced carrier (DSBRC). In his article entitled, "An A.M. High-Powered Amplifier" he notes the topic was investigated and published by O.J. Villard, Jr. (W6QYT) in 1947, and by F.C. Doughty (W3PHL) in CQ magazine for 1968, titled "Modulation Unlimited." Interestingly, Bill Diggins (WA8LXJ) may be revisiting the W3PHL "Upside Down Amplifier" soon in ER.

Hoisy attended the Arizona Hamfest at Phoenix in 1935, while working at radio KOY. $2.00 was a lot of to spend for a hamfest in those days.

Hoisy was also interested in asymmetric speech differences in the male voice. Many of us were provided a copy of David Geiser's (WA2ANU) review of the subject appearing in the April 1963 issue of CQ magazine.

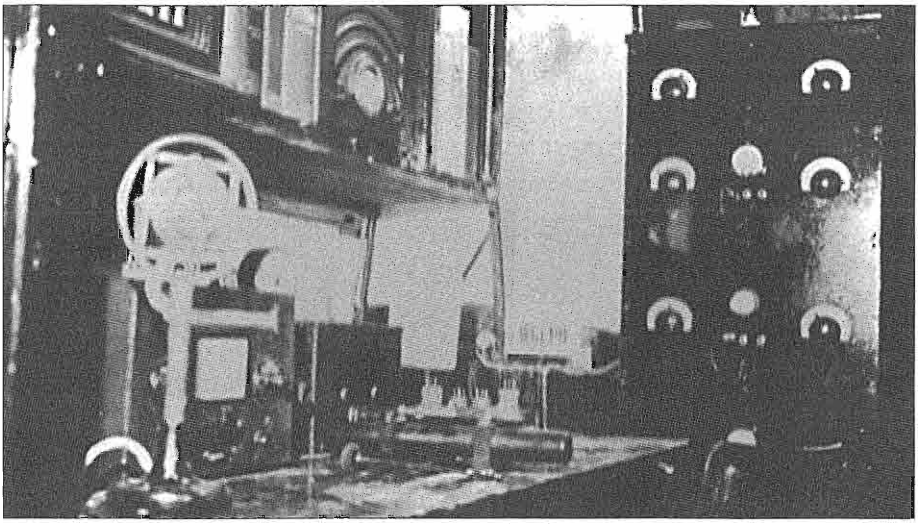
Even after handing over the helm of SPAM to Floyd Dunlap, Hoisy continued providing the membership with technical articles pertaining to AM. There was one article on Series



Hoisy began his career as an Elmer when he became an adult leader in Boy Scout Troop 78, Tempe, Arizona. He was the Arizona State College Code Class Instructor, and was named Director of Communications for the Roosevelt Boy Scout Council in 1935 and 1936. This photograph was taken in the Radio Cabin at Camp Geronimo, which was north of Peyson, Arizona. Hoisy set up a network of 3 stations, and used W6LPH as the call sign. The network kept Camps Geronimo and Ruggles in contact with Scout Headquarters in Phoenix, and they also worked 3rd-party phone traffic on a schedule throughout the state to keep the scouts in contact with their families. Hoisy also built portable battery sets that could be taken on long hikes for use in case of an emergency. According to the Arizona Republic newspaper for Friday Morning of May 29, 1939, "...Finest quality of speech is insured by the use of a double button microphone coupled to a high fidelity speech amplifier," which was probably Hoisy's personal equipment. During the 1936 season, the scouts made 90 contacts, with the longest DX being Albany, New York and Newark, New Jersey. The paper also mentions that the network was radiotelephone only, with CW being used only for emergincies. (photo courtesy Bill Hoisington)

Overmodulation appearing in Electronics for December 1948 that was similar to Villard's article referenced above.

Did you know that some present-day AM nets are related to former SPAM nets? Indeed, many present-day AM nets are direct descendents of former SPAM networks. One of the world's largest amateur nets, The West Coast AMI Net that meets each Wednesday evening at 9pm on 3870 kHz was a former SPAM net.



Hoisy had become a Corporal and Signal Chief in the National Guard by 1936. The 158th Infantry Armory was located on the third floor of the Tempe, Arizona hardware building, and by 1936, the date of this photo, Hoisy had designed and built a "200 watt radiophone and code station", according to the Tempe newspaper. This rig is built into the 6 foot rack on the right. It incorporated "...the latest in 75 meter phone and 80 meter code transmission. Two steel radio towers rise 80 feet above the street, and with their red protection lights may be seen for miles around." He also used the station in a full course of instruction in radio operation. (photo courtesy Bill Hoisington)

Hoisy was a proud father, husband & grandparent. When not engaged in these duties or radio, he demonstrated his excellent musical skills and enjoyed playing his Kimball organ. This is evidenced by an old, but excellent, audio recording of Hoisy. For those who might be interested, let me know and I'll place you on my list for a future CD copy.

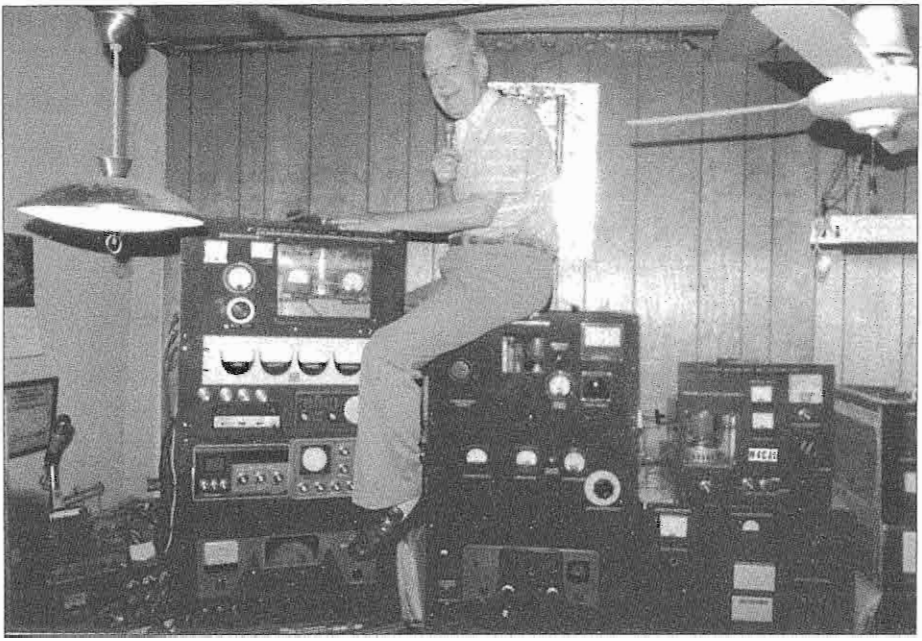
Sadly, less than a year ago on 10 meters, I talked with a physician friend of Hoisy's who reported that our old friend wasn't doing well enough to rejoin us on the radio. A telephone call attempt a few months later revealed that Hoisy's number had been discontinued. In a January email exchange with Andy (WA4KCY) we voiced concern over the welfare of Hoisy. We have since received the news we had anticipated. Our hero is gone but not forgotten! Perhaps there's a bit of Hoisy in each of us, maybe that is why he was so appreciated.

Like Hoisy (W4CJL), Timtron (WA1HLR), Dave (KG6AB), Bill (KDØHG) and Mike (NO6NM), let's keep talkin' 'bout our modulation, be it high or low!

73 Hoisy, Old Friend

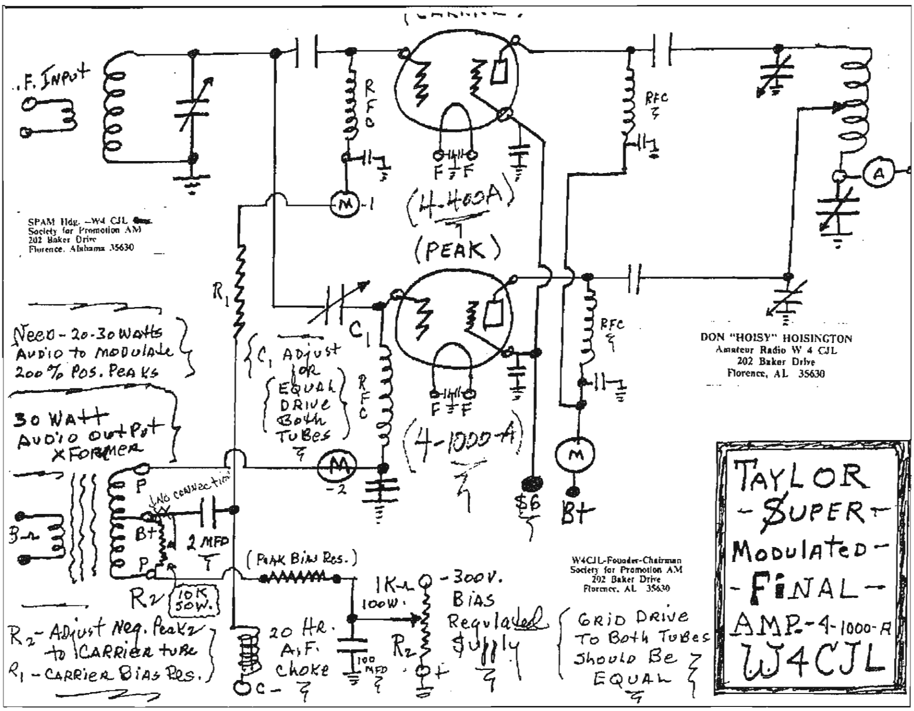
by Eric Jones (N4TGC), Florence Alabama:

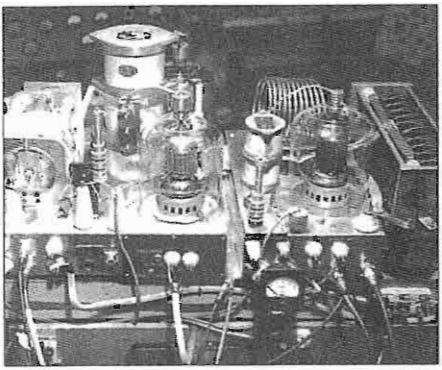
"...After he moved to Florence he [Hoisy] lived on Baker Drive, which was only four blocks from me, until I moved out in the country. I climbed his 70' tower several times, to replace guy wires and add a coax balun he'd had recommended. He would trade me large Tx tubes, defunct equipment, and old QSTs and radio books for this work - one book I have is his personal copy

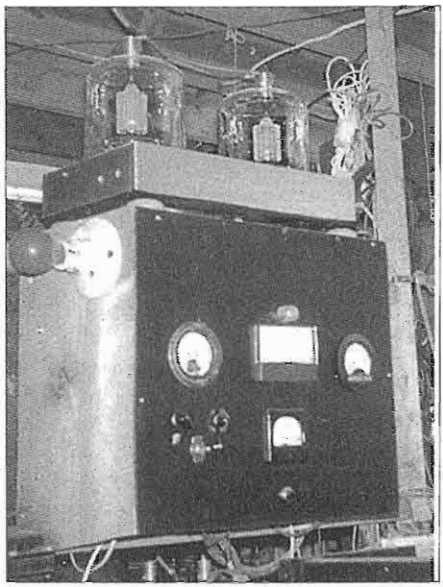


Both of these photographs were taken July, 1990. Hoisy is having fun on top of the AM station in the top photo, and below is his main operation position. (Photos by Fred Cresce, KC4MOP)


W4CJL
W4CJL


.F. Input
RFC
(4-400A)
(PEAK)
M -1
SPAM Hdq. –W4 CJL
Society for Promotion AM
202 Baker Drive
Florence, Alabama 35630
R1
C1
RFC
Need - 20-30 Watts Audio to Modulate 200% Pos. Peaks
30 Watt Audio Output Xformer
C1 Adjust for Equal Drive Both Tubes
RFC
(4-1000-A)
M -2
F F
RFC
M
$6
B+
DON "HOISY" HOISINGTON
Amateur Radio W 4 CJL
202 Baker Drive
Florence, AL 35630
P
No connection
B+
P
2 MFD
R2
10K 50W.
(Peak Bias Res.)
1K 100W.
-300V. Bias Regulated Supply
R2
20 Hr. A.F. Choke
100 MFD
C-
R2 - Adjust Neg. Peaks to Carrier tube
R1 - Carrier Bias Res.
W4CJL-Founder-Chairman
Society for Promotion AM
202 Baker Drive
Florence, AL 35630
Grid Drive To Both Tubes Should Be Equal
TAYLOR
-SUPER-
Modulated-
-FINAL-
AMP.-4-1000-A
W4CJL





Above is another one of Hoisy's homebrew projects, this time a modulated 4-400A amplifier. This was taken about 1967 by W4CJL, courtesy Bill Hoisington. To the right is Hoisy's big modulated 4-1000A amplifier in July, 1990. (Photo by Fred Cresce, KC4MOP)

The photo on the left page was taken in July 1990. Hoisy's 4-400A Super Modulation rig is in the top photo, and his original Taylor schematic is in the photo below. (photo and schematic courtesy Fred Cresce.)

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of the 1942 ARRL Handbook, a presentation copy, over-bound in pebble-grain black leatherette, and engraved 'D.W. Hoisington' (Duane Wesley) on the front. On the flyleaf, he had recorded (along with three versions of his signature), what may be his entire career:
Engineer, KOY, Phoenix AZ, 1935
Engineer and Announcer, KPHC, May to August 1937
Engineer, then Chief Engineer, KRMD August to September 1937
Chief Engineer, KHBG, 1937 to 1939
Chief Engineer, KFPW, 1939 to 1942
KBIX (Muskogee, OK, where he was presented the book - not sure by whom) 1942-44
Wright-Patterson AFB, 1944 to 1946
Wing Supervisor, 1946 to 1947
Manager and Chief Engineer, KMUS-FM, 1947 to 1948
Chief Engineer, KMUS AM-FM, 1948 to 1950
Manager, KAGS, 1950 to 1951
Chief Engineer, KGNO, 1951 to 1952
Manager, KNEM, 1952 to 1953
Chief Engineer, KCRB, 1953 to 1958
Chief Engineer and Program Director, KCRC, 1958 to 1959
Sales Engineer, Collins Radio Company, 1959 to 1964
Chief Engineer, WVNA AM-FM 1964 to November 8, 1982

I've tried to reproduce this table as he wrote it, hence the inconsistencies; and his writing is not always clear, so I may have a couple of the calls wrong. He retired from WVNA - notably, the only W-call he'd worked for! Hoisy was a bit gruff, and not easy to get to know - perhaps because I'm mostly into military surplus, and he was into Big Iron. You always knew who it on the phone: he talked so loud you could hear him across the room! (He jokingly called himself "Noisy Hoisy".) His tower was taller than it might have been otherwise, as he'd had to site it on

the steep drop-off behind the tract house his wife selected (so she could be near her bridge club, he said), which lost some 10 feet from front to back. His "shack" was in the basement: cozy enough, and not too cramped. He had several shelves filled with old QSTs and Ham books, as well as the easy-listening LPs he favored. The Big Iron was a quintet of home-brew amps, driven by Johnson tx's such as the Valiant and Ranger. He always seemed to have yet one more in the works ... for the work I did, he traded me a used 4-1000A, a box of 813's, a home-brew filament choke, and a cooling blower, in an effort to get me to build something big, but I'm all thumbs, so I never did. I still have the 813's, but the rest I traded off to my betters..."

by Bob Dennison (W2HBE), Westmont, New Jersey

"...I lived in Salina KS and heard him on 160 M fone back in 1933. One day I discovered the 160 Meter Ham band and heard Duane Hoisington, W9NOE, who called himself 'Little Boy Blue,' chatting with Charlie Larsen (W9FEL), of Delphos, who was talking about his new ribbon mic..."

[From ER #124 Aug 1999, 'W2HBE Reminisces']...Duane Hoisington had a good friend Charlie Larsen, W9FEL, who helped him get his license, W9DWH in Jan. 1930. Duane got on the air using an 112A Hartley oscillator, Heising modulated by another 112A with 180 volts from a B eliminator. Duane had a friend named Harry Balaun who bootlegged on 160 meters. One day Harry called CQ and Duane heard him on his regenerative receiver. Naughty Little Boy Blue quickly connected a carbon mic into the antenna lead—turned up the regeneration—and gave Harry a long call signing as a W5. Harry talked to Duane for half an hour, never once recognizing his voice. After the QSO Harry called Duane on the phone and told him about his great luck working a W5 in Oklahoma!

On Saturday night, March 23, 1932, Duane and another friend thought it would be fun to rebroadcast the dance band music coming in from WMAQ in Chicago. They moved the frequency of his rig to 1540 kc and broadcast until about I am. Meanwhile at the hotel, two GE engineers tuned in and decided it didn't sound like broadcast quality. They knew Theodore Knittle and got him out of bed. Ted listened and said, "That's Hoisy, and he's the only 160 meter station in Salina." Next day Ted reported the incident to the Grand Island monitoring station and Duane was off the air for one year. Band conditions must have been good that night—Hoisy received 33 reports of reception from such points as Pokeepsie, NY, Denver, Beaumont, Texas, etc!"

by Dalton McCrary (W4PJV), Murfreesboro, Tennessee

I have some of the fondest memories listening to him on the air while I was a shortwave listener during the early 1960's. I spent many hours listening and soaking in all the information he had to say. I should have been studying my lessons, but the radio drew me away. One of my punishments was to take away radio privileges! Hoisy [was] always full of information and interesting conversations. I became a member of SPAM while only a listener and Hoisy sent me the nicest note along with my membership. He sent me another card and note only about 4 years ago. My how time flys by. My regret is that I could not have spent time with him in person!

from Barry Wiseman (N6CSW), Cortez, Colorado

January 21, 2003
William K. Hoisington
33 John Sims Parkway
Valparaiso, FL 32580

Mr. Barry R. Wiseman
14643 County Road G
Cortez, Co. 81321

Dear Barry:

By now you should know my Dad "Noisy Hoisy," Duane W. Hoisington W4CJL became a SK January 11, 2003.

Dad was some Ham Radio operator, when most men take up Golf Hunting or some other sport, Dad took up Ham Radio at a very young age.

I am enclosing a picture I would like to use if you decide to publish a story about Dad. Taken in 1957 at KCRB now KKOY Radio Station in Chanute KS. KCRB was a 1KW daytime, Dad had his station in the transmitter room with a large blade switch to change the input to the 175 FT series fed tower to his ham station, ears perked up when the fellow on the other end understood Dad's antenna was 175 foot vertical. He ran a pair of 4-400s in the final and a pair of 3O4TLs as Mods.

Over the years he continued to build and rebuild using Taylor and other forms of hi level plate modulation. I'm sorry Dad couldn't live out in the country where there would be room for antennas and free from TV and BCI. I think in the middle 90s Dad gave up because of the problems and became a listener.

Dad was 92 and in good health until the end. He was raised in Kansas, coming from a newspaper background. His Grandfather AJ Hoisington started the Greatbend, KS Newspaper in the 1880. Hoisington, KS was named in AJ's honor.

My Grandfather was in the Newspaper and printing business. Dad went in a different direction. Broadcasting. He built of the first FM stations in Oklahoma in the late 1940s. From the early 1930s Dad worked at 12 AM and FM radio stations in 6 states. He worked as District Sales Manager for Collins Radio Co. in 1960. Dad hung it up in 1982 after working some 17 years as Chief Engineer for WVWA in Tuscumbia, AL. In 1938 he put KHBG on the air in Okmulgee, OK. Used a plow and mule to put the ground system down. He also fel in love with my Mom.

I feel Dad worked very hard to keep AM alive on the Ham bands. And who knows if there would even be any AM mode today without his help.

Dad is survived by my Mother Paula, my wife Glenda, two granddaughters, and 4 great grand kids.

I appreciate all of the messages from fellow Hams. He now has a new QTH in Heaven and maybe the SSB operators will give him a break

73

Bill

Join AMI and support our AM organization! Send $2.00 to AMI International, Box 1500, Marrimack, NH 03054

Cabinet Repainting Basics

by Mark Gilger, WBØIQK
11827 Fraze Rd.
Doylestown OH
44230

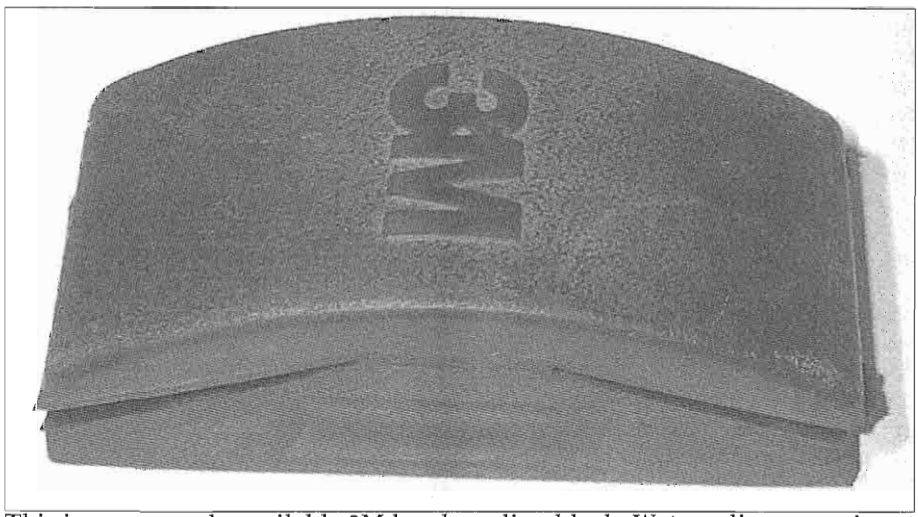
This article was prepared in order to describe the steps necessary in repainting the typical black Drake radio cabinets. If you have the proper matching paint, the methods discussed here may be used to restore any cabinet. The results are excellent, with the end product being almost undetectable from the original. The final step includes procedures for adding a spackle finish that was typical on many vintage cabinets.

You will need to start by gathering some painting supplies. These are commonly available at nearly any hardware store or a good auto parts store. Here is a list of what will be needed:

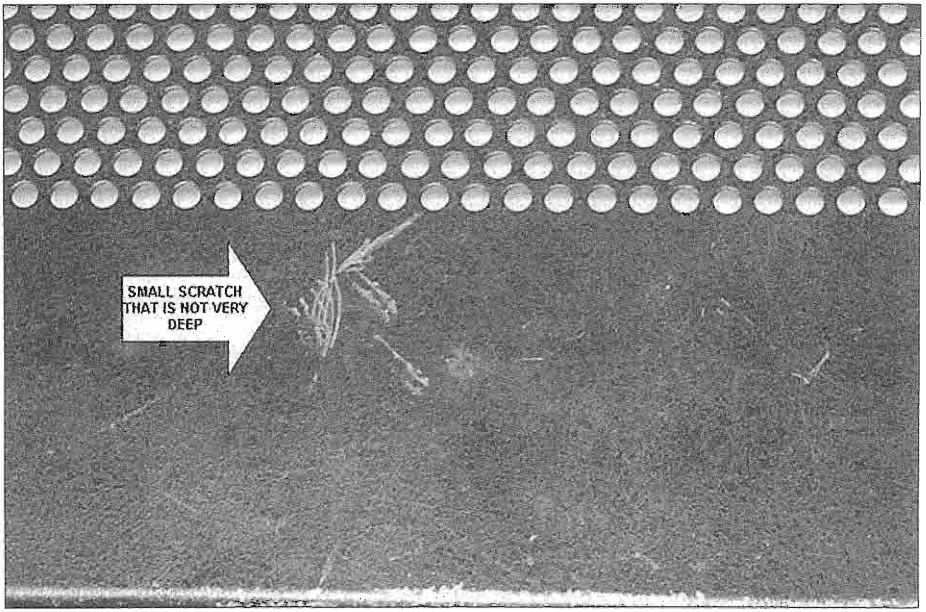
1) Krylon #1317 Rubby Brown Primer
2) Krylon #1613 Semi-Flat black paint
3) #600 grit Silicon Carbide waterproof sandpaper, often referred to as "Wet Sand".
4) #1000 grit Silicon Carbide waterproof sandpaper.
5) #1500 grit Silicon Carbide waterproof sandpaper.
6) 3m sanding block.
7) #52, (.063-inch) drill bit.
8) "Post-it" brand #651 Correction & Cover-Up Tape
9) Windex window cleaner or denatured alcohol. Do not substitute.
10) Compressed air spray can that is used for cleaning a PC. These are typically available at computer stores.

Surface Preparation:

The importance of a clean surface cannot be overstated, because it affects the quality of your finished job, and



This is a commonly available 3M hand sanding block. Wet sanding paper is cut into strips matching the width of the block, and then tucked underneath the end flaps of the sanding block to hold while sanding operations are in progress.



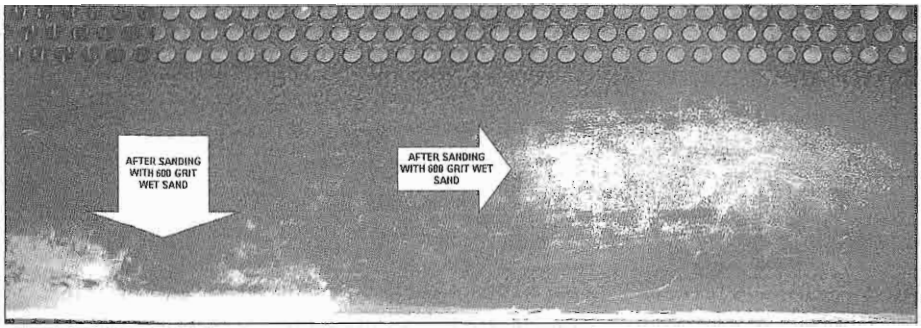
Here's a side view of a cabinet that has the typical small scratchs and minor abrasions found on equipment that has been out of the factory for decades.

how long it will last. Begin by thoroughly cleaning all the accumulated grime from the entire cabinet surface area with Windex, or soap & water. Take your time and make sure it is clean. Once the surface is clean, put #600 grit sandpaper on the 3M sanding block, and with a small amount of running water, start lightly sanding the entire surface. Be careful not to sand over any of the silkscreen wording on the lower cabinet section. Cabinet silkscreen lettering needs to be protected during the entire sanding and painting process.

Typical of an old cabinet are the minor, or sometime major, scratches and numerous paint chips. No mater how small, you cannot under prepare these areas. If you fail to prepare correctly, you will have an otherwise nice paint job, but you will still be able to see the scratch.

After the minor light sanding of the entire cabinet, now concentrate your efforts on the areas with defects. You need to meet two goals. (1) You need to feather the area around any defects. Feathering the area simply means that you sand the defect area so that it becomes about 4 or 5 times it's original size, making sure you have a gradual transition from painted area to bare metal. (2) When feeling the area with your finger, you should not be able to notice the transition from painted area to bare metal. Also, you should not be able to feel other defects.

Once the cabinet has been sanded, remove any residual oil by spraying the entire area with Windex or denatured alcohol. Do not substitute. Try to avoid touching the prepared surface with your bare hands. You don't want any hand oils to transfer to your carefully prepared surface. If you do accidentally touch it, carefully clean the area again with Windex and let it dry.



This photograph shows the results to be expected after wet sanding with very fine sandpaper.

Cabinet Silk Screen Letter Protection

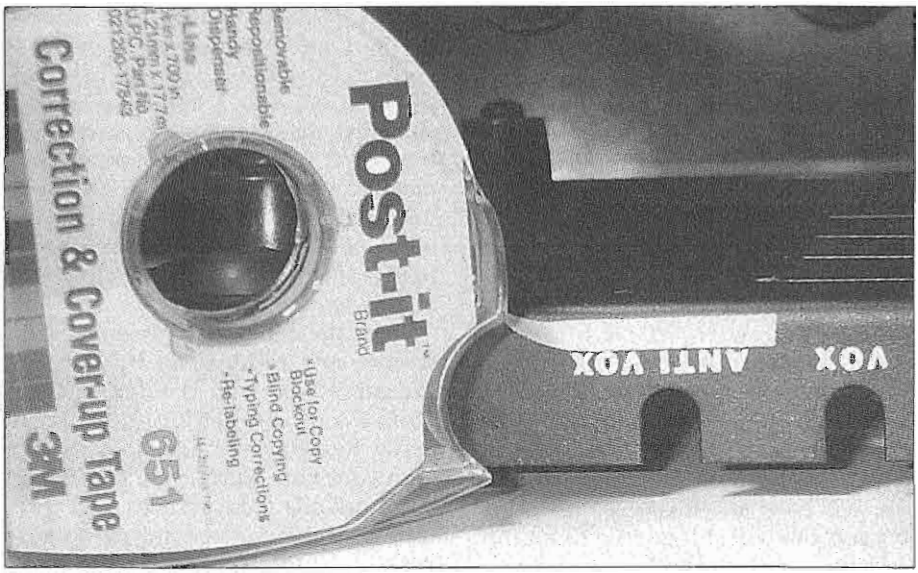
During the sanding process, no preparation needs to be made other than making sure you do not sand over the silk-screened areas.

Before priming and painting, the silkscreen lettering areas need to be covered up to protect them. I've found that the "Post-it" brand #651 Correction & Cover-Up Tape works well. It can be obtained from just about any office supply store. It's used to correct typing errors when using a typewriter. The tape is good for our purposes because it has a very light adhesive backing and pulls away easily from the silk-screened area.

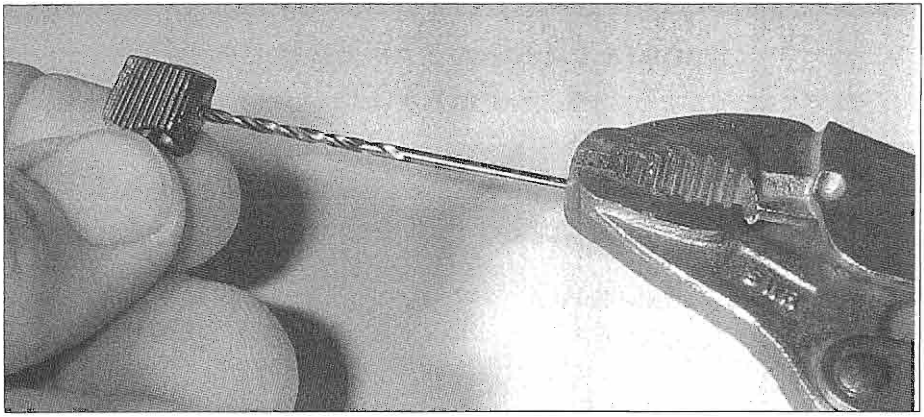
Trim the tape length and height to correctly match the word being covered.

Priming

With the Krylon #1317 Rubby Brown Primer, prime the prepared surface with 3, or more, lighter coats. Let the surface completely dry before applying the next coat. If you prefer, you can



Protecting silk screen lettering with Post-it Correction Tape



As described in the text, here is the author's method of modifying a spray nozzle to achieve special paint effects.

also prime the entire cabinet, but excellent results will be obtained by just doing the effected areas.

Once the primer is completely dry, wet sand the entire cabinet with #1000 grit sandpaper. Once again, verify the surface is smooth and that no defects can be detected by rubbing your bare fingers across the surface. If no defect can be felt, proceed to the painting step. If defects are still detectable, carefully redo all of the preparation steps before proceeding. When you are satisfied with the quality of the primer coat, spray the cabinet's front lip area with compressed air to blow out trapped water from the inside overhang lip. Take your time, and let cabinet dry for several hours in the direct sunlight.

Painting

With Windex, spray the cabinet to make sure the area is clean, and then let it dry again.

With a smooth back and forth motions, spray the cabinet with Krylon #1613 Semi-Flat black paint. For best results, do not get any closer than 12 inches from the cabinet. Spray 3 or more coats, letting the paint dry completely between coats until the desired results are obtained.

Sand the entire cabinet again very lightly with #1500 wet/dry sandpaper using the 3M sanding block and plenty of water until no rough areas are detectable.

Painting Spackling

With the proper drill bit, ream out the spray buttonhole. The idea is to enlarge the spray hole to a point where the paint sprays out more in drops, instead of a fine mist. You might need to experiment with drill bit sizes until the desired results are obtained. I've found the #51 bit works best for the Drake cabinets.

With the can positioned about 2 feet from the cabinet, using smooth back and forth motions, spray a light coat across the entire cabinet surface until the desired spackling effect is obtained. Then, when you are ready, remove the tape that covers the silk screening.

In most cases, you can make an ultra light sanding pass with the #1500 sandpaper over the silk-screened area to remove any small paint ridges created by the tape.

When carefully performed, you will finish up with a beautiful cabinet that you will be proud to display in you shack.

ER

Radio's Golden Age-Episode 22
Part 1

Bruce Vaughan, NR5Q
504 Maple Drive,
Springdale, AR 72764
NR5Q@AOL.COM

Gunsmoke in the Parlor

You have debased (my) child . . . You have made him a laughing stock of Intelligence . . . a stench in the nostrils of the Gods of the Ionosphere.
Dr. Lee De Forest (1873-1961)

The year was 1946. After my discharge from the Air Force in August 1945, I found college life far less attractive than it was when I left in 1942. I made a decision I was to regret quite often in my later years. I dropped out of school to go into retail business—primarily radio sales and service. So what, precisely, was this new business I had chosen to enter? Where did it come from? Where could I expect it to go in my lifetime? What were the origins of radio? Just how far into the future was the long-awaited invention of television?

It is said, "What man can imagine, man can accomplish." Would this old axiom apply to the emerging science of electronics? If so, the next twenty-five years would be difficult, trying to stay ahead of a facet of science suddenly thrown into warp speed by recent wartime developments.

It is human nature to associate one man's name with every new invention. Henry Ford, the automobile; Robert Fulton, the steamboat; F. B. Morse, the telegraph; Alexander Graham Bell, the telephone; Thomas A. Edison, the talking machine and electric lights; Daguerre, photography; and yes, Marconi invented radio. Oh, did he really? Well . . . more or less. Let's take a peep backward, and then decide.

Perhaps it all started in 600 B. C. when Thales experimented with some amber rods. He discovered that under certain conditions, like stroking the rod with a woolen cloth, certain peculiar properties of amber were exhibited. The Greek root of amber, some 15 centuries later, gave us the word electricity. The word is first found in print in 1646 in Sir Richard Browne's Pseudodoxio Epedemica.

Pliny and Pliny the Younger, without realizing what they were doing, used the properties of electric current

Heinrich Hertz, about 1885

in experiments carried out in the days of the Roman Empire.

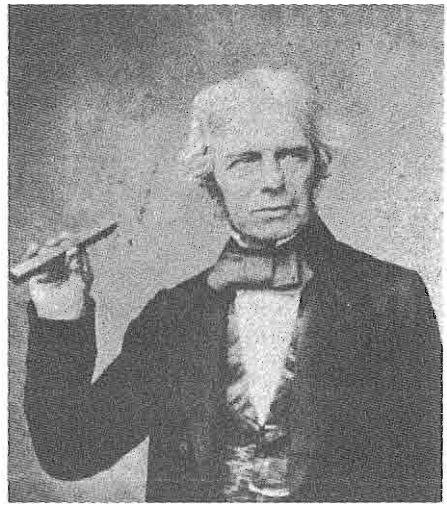
Heinrich Hertz, in 1866, verified certain theories concerning electricity and magnetism, first advanced by the Scotsman James Clerk Maxwell. Hertz actually caused an electric spark to occur between two closely spaced electrodes connected to an induction coil and located some distance from a similar coil in which he induced a high-tension electric current.

In 1885, Dr. Mahlon Loomis, a Washington, D. C. dentist, sent a kite aloft carrying a large square of very fine copper mesh. A slender copper wire trailed from the copper screen to earth. On another mountain 18 miles away, a similar kite was launched. A galvanometer, connected in series between one kite and ground, indicated a needle movement when the wire from the kite on the distant mountain was connected and disconnected to a coil of wire buried in the ground. This experiment, utilizing static electricity in the air, could have been used to transmit messages in code had the dentist persevered.

Michael Faraday contributed many ideas to this new science. Alternating current, the electromagnetic theory of light, and the values of different dielectrics are just a few of his major discoveries.

All these experiments, plus many more, were accumulating in the reservoir of man's total knowledge, waiting for one man with imagination to apply them. With the invention of the telegraph, man began dreaming of sending telegraphic messages without the need of wires. Both Thomas Edison and Alexander Graham Bell were busy at work in their laboratories trying to unlock the secret of wireless telegraphy.

In Bologna, in 1874, an Irish mother and an Italian father became the proud parents of a son, whom they named



Michael Faraday and the iron bar used to experiment with magnetism.

Guglielmo. The young lad attended the Leghorn Technical Institute. Early on, he became a disciple of Professor Righi of the University of Bologna and developed an intense interest in inductive telegraphy.

When twenty years of age, he returned to his father's large estate outside the city of Bologna, where he could conduct experiments with electric wave phenomena. Here in the Italian countryside, using circuits and components available in most university laboratories, Marconi developed the concept from which radio would emerge.

It is true that Marconi invented nothing. He integrated several discoveries of others into a workable system whereby he could transmit and receive messages over great distances—without wires. Hence came the name "wireless," as the new art would be known until the advent of broadcast radio.

Marconi took his equipment to Great Britain in 1896. On Salisbury Plain, he gave a demonstration during which he sent and received a wireless message over a distance of two miles. He filed for a British patent on June 2, 1896.

The reaction was immediate. Newspapers and magazines were quick to publish articles about this memorable scientific event. Many scientists, who had worked for years on the idea, tried to discredit Marconi. Edison was especially vehement. He was quick to point out that Marconi had invented nothing—that all he had done was to apply the work of others. Though his charges were quite true, it was Marconi who utilized scientific knowledge available in 1896 and forged it into a workable system of communications. So, while not the inventor of wireless, Marconi can with certainty be called the Father of Radio, a term Dr. Lee De Forest wrongfully applied to himself.

By 1900, Marconi had increased the range of his equipment enough to span the English Channel. Just before noon on December 12, 1901, Marconi successfully sent the letter "S" across the Atlantic. Edison purchased a full-page ad in the New York City papers, branding the whole event as a hoax.

With primitive equipment, unreliable and limited in range, Marconi founded the Wireless Telegraph and Signal Company in Great Britain and the American Marconi Company in the U. S. His business was marine communications—either ship to ship, or ship to shore. The high conductivity of salt water resulted in a greater range than that of land-based stations. Still, communication was limited to a distance of some 50 miles and subject to static crashes, plus interference from other stations. Ideal conditions could, of course, result in much greater distances.

Detectors, the heart of any receiving set, were on the minds of all radio experimenters. Marconi used a Coherer detector: a small glass tube, loosely packed with iron filings. In the period from 1903 to 1920, a hunk of unrefined lead, better known as "Galena," was widely used. Most all boys growing up in those years constructed crystal sets using such a detector. At the time, this was a standard Boy Scout project. Several articles on building crystal radios appeared in the twenties, wherein the authors suggested using Quaker Oatmeal box as a coil form. Quaker Oats sales soared. Such radios became known as Quaker Oats sets.

In the late 1890s, Lee DeForest paid a visit to Professor Fessenden's laboratory in Canada. The trusting professor demonstrated a new detector, superior to the Coherer, to the American inventor. Returning to the states, Dr. DeForest promptly filed for a patent on what he called the Electrolytic Detector. He was widely acclaimed for "his" new invention and was quick to install it in all units he was manufacturing for the Navy.

Professor Fessenden was outraged and filed suit in the federal courts. The courts ruled in Fessenden's favor in 1906.

With the sinking of the "unsinkable" ship Titanic in 1912, wireless experienced a tremendous growth. International laws were rapidly passed requiring every vessel to have a wireless station on board with operators on duty 24 hours a day. A new bonanza opened up for wireless companies—the training of thousands of shipboard operators.

Marine installations, until well into the twenties, used spark transmitters, and crystal receivers. Technology discovered some years before was still under development.

Indeed, it is my understanding that as late as 1936, crystal radio receivers were required to be a part of every ship's equipment. While very limited in range, they were dependable, extremely simple, and required no external power supply. Incoming signals provide the only power used by crystal radios. Therefore, though the ship's power might fail, crystal radio receivers could still be used.

The Marconi Company made millions manufacturing shipboard wireless equipment. During the World War I era, Mr. Marconi found it necessary to pay one full-time employee for the sole purpose of delivering flowers to his many mistresses around New York City. It is rumored the poor deliveryman often had to work overtime.

In 1904, Ambrose Fleming inserted a square metal plate into a light bulb. He discovered that this "valve," as he called it, would act as a radio detector, the results being a bit better than a galena crystal.

Soon after the courts ruled that DeForest had patented Professor Fessenden's detector, the DeForest Company filed for bankruptcy, leaving DeForest with nothing but some equipment from his laboratory. Among this equipment was a Fleming Valve into which he had inserted another element, a zigzag piece of wire. His stockholders allowed him to retain this gadget, which they considered worthless. He called it the Audion. Though he had no idea how it worked, he discovered this "Audion" would actually, to a limited extent, amplify radio signals. Thus was born the vacuum tube, an invention destined to make radio a priority item in every home in America, though it would take almost twenty-five years to do so. The year was 1906.

While the Audion had the potential of amplifying radio signals, the detector circuits of 1905 were such that this potential was not utilized. Distant signals were weak, and could be heard only through headphones. Horn-type speakers (loudspeakers) did not come into common use until 1922-25.

Radio amateurs are responsible for almost all of the developments that made radio a home entertainment medium. In 1912, a young amateur was experimenting in his bedroom 'Ham shack.' It was early morning; the family was fast asleep. Suddenly, he let out a yell and ran to his sister's, then to his parent's bedroom. "I have done it! I have done it!" he yelled.

The family rushed to his room where a small vacuum tube radio was tuned to a wireless station. The signals were so loud the listeners had to hold the headphone some distance from their ears. Sets then had no volume controls; they had never before been needed. Edwin H. Armstrong had invented the regenerative radio circuit: a circuit that feeds the signal from the detector tube output, back into the tube's input—again and again, thousands of time—until the signal is amplified many times its original strength.

Dr. DeForest filed suit, claiming he invented the regenerative circuit. When called to the witness stand before other engineers and scientists, he became confused, unable to explain any part of its operation. Later, a judge in a higher court found in favor of DeForest. Every engineer, then as now, recognizes Howard Armstrong as the true inven-

Edwin Howard Armstrong

tor of the regenerative circuit. Indeed, few in radio today associate DeForest with any invention other than the vacuum tube, and even there a sliver of doubt remains.

In his lifetime Dr. DeForest would "invent" and patent over two hundred ideas. Many authorities now believe most of his inventions were the work of his contemporaries. The thought today seems to be that DeForest was an accomplished promoter; perhaps even a con artist. He organized over twenty companies from 1900 to 1927, all of which he would lead into bankruptcy. When he died in 1961, he had but $1,250 left in his bank account.

In 1918, Armstrong invented the superheterodyne circuit—a circuit employed in over 99% of all radios manufactured from 1930 until the present. Never content, he invented super-regeneration in 1922.

His greatest invention, FM (frequency modulation), came in the 1930s. Every television and the majority of radios in use today utilize, in fact depend upon, FM sound. Sales and royalties from previous inventions made Armstrong the single largest stockholder in Radio Corporation of America. Unfortunately, the invention of FM would ultimately lead to his destruction.

RCA, led by David Sarnoff, steadfastly refused to pay Armstrong for use of his patents. Armstrong entered into long and costly litigation. After four decades, still involved with countless lawsuits, his fortune gone and his life in a shambles, he was a broken man. He took the only course of action he felt he had left. He put on his topcoat and muffler, and stepped out of the window of his high-rise apartment, into the cold night air. His frozen body was discovered the following morning.

Howard Armstrong's widow continued court action against those using Armstrong inventions without pay. Within months, all pending legislation was settled in favor of the brilliant inventor—Armstrong received the settlement, and the recognition, he should have received almost forty years earlier.

One point we must keep in mind—wireless was concerned with but one thing: transmitting a message from point A to point B. This concept changed forever in 1919 when another radio amateur, Dr. Frank Conrad, began "broadcasting" from his garage in Philadelphia. These messages, through his "phone" or modulated transmitter, were aimed at a general audience, not just a single listener. The broadcasts were intermittent in nature—usually an hour or so each day, consisting of phonograph records, baseball scores, and news items. He was surprised to find that he had a number of listeners, mostly other radio amateurs and experimenters using simple crystal radios to hear the broadcasts.

A music store in downtown Philadelphia loaned Dr. Conrad records for his broadcasts. The store noticed they rapidly sold out of those records that Dr. Conrad played on his broadcasting set. There must be some connection! The store had a number of unsold World War I surplus radio sets in stock. The manager asked Dr. Conrad to please mention these sets on the air. Within a week they were completely sold out. Radio broadcasting and advertising were born.

In 1920, the Westinghouse Electric Company moved Dr. Conrad's broadcasting set to studios on the top floor of its building in Philadelphia and began broadcasting on a regular basis, using the call letters KDKA. By 1925 most cities in the United States had at least one radio station.

[Part 2 will be featured in May 2003 ER]

ER

Hallicrafters Receivers and Black Beauties: Beware!

by Brian Thompson, NI6Q
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OJAI, CA 93023

Hundreds of pages have already been written about the "Black Beauty" capacitors used in most of our boat-anchors in the 50s and early 60s... Should they be replaced systematically because of their notorious "leaky behavior" in presence of high voltages?

Some advocate a total recapping, others are only replacing caps that "see" voltages of over 100V or so on one leg, like decoupling and plate or grid coupling caps.

Well, whatever is one's credos in that respect, it has to be pointed out that these old condensers certainly have very different characteristics than the new state-of-the-art Polyester film or polypropylene capacitors that will replace them. The new capacitor has almost infinite insulation resistance and has been studied to be non inductive, where the old "black beauty" was a complex network of capacitance, inductance and resistance altogether in a single component package!

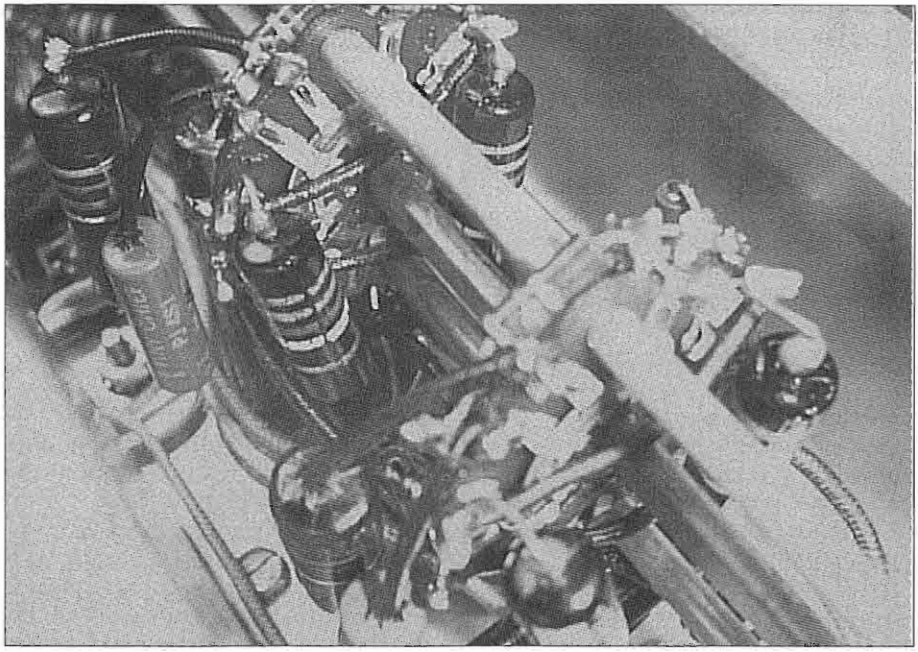
So, as long as you are dealing with decoupling caps in RF or IF stages, no problem: The new one will outperform the old one. New capacitors in interstage coupling situations will procure some frustrating experiences in the audio section where, for a same replacement value, one will find that the audio band pass is altered, usually to a more "pitchy" sound than desired.

Keep in mind that the engineers designing our boat anchors in the 50s were integrating these old capacitor imperfections in their calculations, in respect to their insulation resistance, but also even more for their inductive characteristics. When you replace one of these black beauties, do not assume that it is a simple capacitor, and try to evaluate the impact of the change in resistance and inductance value that will take place.

That impact can easily be addressed in the audio circuit where you can "fine tune" the audio response by adding some resistance or capacitance to the circuit to make it sound right.

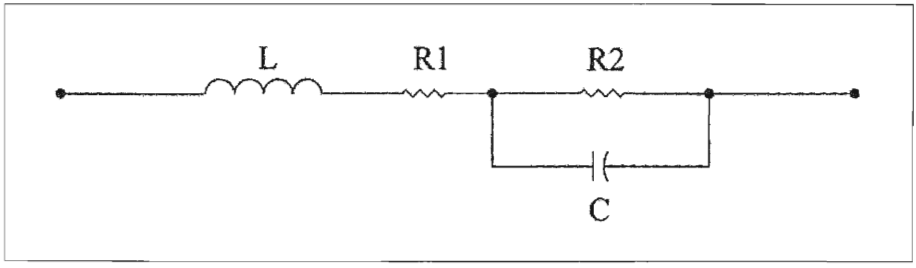
Unfortunately, a much more complex problem arises when dealing with Hallicrafters IF stages, where variable selectivity is obtained by switching different values of resistance and capacitance coupling with the selectivity control in the 50 KHz IF stages. This typically concerns the SX-100, SX-110, SX 111, SX-101, SX-101A, SX-88, SX-115, and others using the same selectivity control circuit. If modern capacitors replace the original capacitors, the selectivity curves are altered and end up being totally different on all positions, due to the difference of inductance and resistance of the new components. It is then a nightmare to get it back to normal specs, unless you have a very well equipped test bench, and lots and lots of time to spend.

Since those capacitors are not subject to any high voltage in that circuit, I would very strongly recommend that they would be left in place, even if you are in for a "total recap" of the receiver! This will assure you continue to enjoy the original selectivity curves, and might even prove important, down the line, to sustain original specs from these fine machines.



Five Black Beauty and one Sangamo paper capacitor are shown in their original positions around the bandwidth switch of a Hallicrafters SX-88.

[Editors note:



The electrical equivalent circuit of a capacitor in an AC circuit is shown above. L is the inductance of the conductors, R1 is the effective series resistance of the capacitor, R2 is the leakage or insulation resistance, and C is the ideal capacitance. When analyzed as an equivalent in the real world, the capacitor represents a complex impedance with frequency terms in the inductance and in the capacitance. When this complex impedance is altered by component replacement in a sensitive tuned circuit, you can not expect the circuit to have the same response as orginally designed.]

ER

Another 75A-4 Glow In The Dark Christmas

by Bruce J. Howes W1UJR
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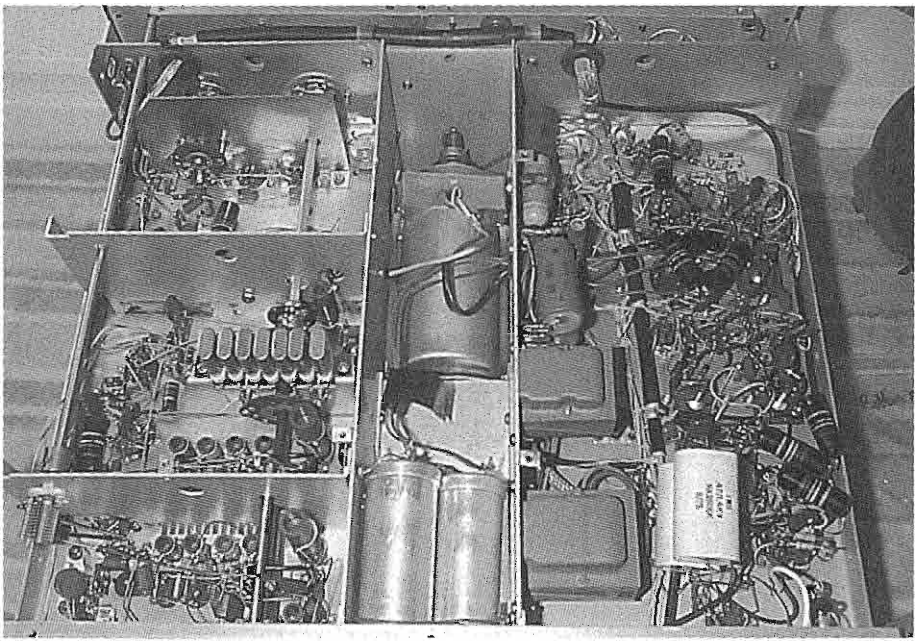
04120

It started innocently enough; I needed the traditional holiday radio project. The year before it had been the renovation of an R390A receiver, and the year before that was the cosmetic and electrical restoration of a T-368 transmitter. Despite my recent move to Portland, Maine this year was no different; I was keeping my eye out for a radio project to occupy my free time over the holidays.

The chance came right before Thanksgiving, when a 75A-4 receiver popped up on ebay. (Say what you want about ebay, and I myself have mixed feeling on the subject, but the service does drag up a great deal of gear that would otherwise never see the light of day.) Debuting in 1955, the Collins 75A-4 is arguably one of the finest vacuum tube receivers ever produced and is still highly sought after. This particular A-4 was from the estate of a silent key, and had clearly been sitting unused for a long time. I never did learn his name or call, but I am almost certain I know what caused him to pass to the great beyond...in a word, nicotine. The A-4 arrived safe and sound, but covered in a thick layer of yellow nicotine. Odd as it may sound, the nicotine's effects on radios seem very much the opposite of its effects on humans. Indeed it seems to serve a purpose like Cosmoline, coating and protecting the finish for decades. Later in the article I will address my method to clean off this material, but let's take a closer look at the A-4.

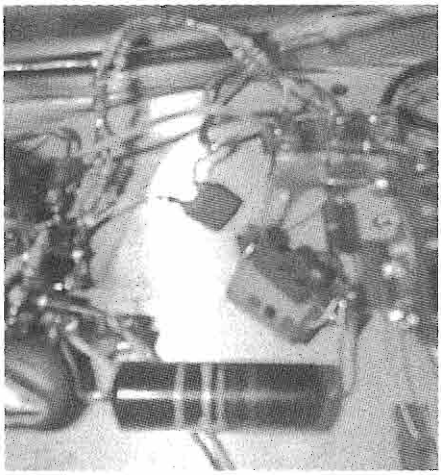
For a receiver now over 47 years old, the A-4 seemed to be in remarkably good shape. It had the traditional scuffmarks on the panel edges where the thin layer of paint had, in spots, worn away, but overall it looked quite nice. The 4:1 spinner knob was in place, the passband tuning knob was original, and no extra holes were found in the chassis or cabinet. Overall it was showing promise. A quick check under the "hood" showed the stock 3:1 mechanical filter in place, but mysteriously, the 6AL5 noise limiter tube seemed to be missing. I checked the packing material, searching for the missing tube; it was nowhere to be found. As a glance at the schematic told me that the tube needed to be in place for the receiver to operate, my concern began to grow.



My first view of the 75A-4 after removing the bottom cover. In the center rear of the chassis you can see the three electrolytic caps the previous owner had used to replace the multi-section electric cap that had failed. Note the large yellow caps on the right side that had been tied into the AVC line.

Normally, my procedure before I begin work on any gear is to get a baseline of operations. I use the unit, verify what works and what does not work, and make copious notes for later reference. Never one to be shy with a screwdriver, the 6AL5 tube mystery and the frayed line cord offered me an excuse to take off the bottom cover, and I quickly removed the dozen or so screws that secured it.

The first thing to catch my attention was the string of no less than a dozen resistors connected in both series and parallel up on the 2nd mixer tube. Someone had gone to a great deal of trouble to make up that configuration, and I wanted to know why. It seems that at some point in the life of this radio, someone had lacked the proper resistor and instead installed a string of a dozen resistors to reach the correct resistance and power rating! Not only



A closeup of the mod on the 2nd mixer stage showing the resistor string. Note the dozen resistors used to replace just one resistor! You can just see the large scorch mark near the tube socket.

did the 2nd mixer show signs of modification, but the 6AQ5 audio tube had a similar set of resistors attached as well. A dark scorch mark on the chassis completed the picture.

As I looked around inside the unit I began to realize the scope of my undertaking. In radios that have been out of service for some time, it is common to experience failure of large electrolytic caps and my find was no exception. At some point, a well-intentioned repairman had bypassed C94, a three section electrolytic, with three large discrete electrolytic caps mounted under the chassis. Not a bad repair, but certainly not appealing from a cosmetic standpoint. I further noted many of the carbon composition resistors had been replaced with metal films throughout the unit, and a large set of .47mfd caps tied to the AVC line.

Initially, I thought I would just replace the dreaded "Black Beauty" capacitors, but these mods, combined with the sloppy soldering job, melted wire ends, cold solder joints, and poor lead dress told me that this was not to be a weekend project.

I should mention here that I am somewhat new to the vintage radio scene, first licensed in 1995; I just started getting my feet wet in the hot cathode emitter department only a few years back with an old military R-390A receiver and T-368 transmitter. During the R390A and T-3 work, I had replaced many capacitors and resistors, but never on this scale. My first thought was to compare the radio in front of me with the schematic; however this is more problematic that it sounds. With a complex radio like the A-4, the previous owners various mods and my lack of familiarly with the unit made this a very time consuming task. Ideally I would have another A-4 to place side by side for a visual check, but that was not an option at this point. It was far simpler to look for the messy repair work.

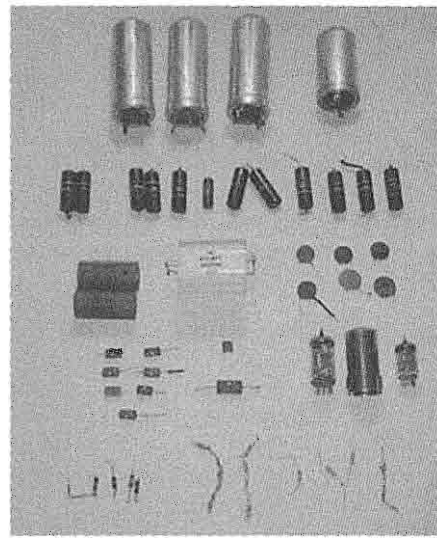
Fortunately, or perhaps unfortunately for the radio, the previous service had been carried out with an implement just shy of a blowtorch. The melted wire ends, excess solder blobs, and outright scorch marks on the chassis were simple to spot. I methodically made a written list of the various mods, component replacements, and questionable repair work. It was a daunting project.

The first order of business was to establish why someone did what they did to the radio. Allow me a few minutes on the soapbox here. I am sure that most of you, and I am guilty of this as well, have made personal modifications to gear. Nothing wrong with that, indeed the hobby was, in many ways, built on that very activity. However, one thing we should keep in mind is that, in effect, we are just custodians of this equipment. I am certain that when the Collins people built this A-4 they had no idea that it would be still in use nearly half a century later. Nor when

the first ham did his repair or mod work on "my" 75A-4 did he really think some guy in Portland, Maine in the year 2002 would be repairing it. No, at that time he knew what he was doing, it was his radio, and that was all that mattered. He never thought of documenting his handiwork, nor did his successors. Yet how many times do we find a radio missing the manuals, paperwork and other documents? Or worse yet, a nice clean boatanchor that someone has drilled a hole in the front panel to install some sort of convenience item, be it a pilot light, a switch, or a headphone jack? Sure it's your radio now, but what happens in 10, 20 or 50 years? I realize that until recently most of the vintage gear had fallen out of favor, and repairs were usually done in the most cost effective manner. But please keep this in mind the next time you feel tempted to save a few bucks on a part, or install that extra toggle switch: make it reversible, and document your work. Had the previous owners done just that, my task would have been a simple one. We owe it to future hams to treasure and protect this gear, for their will never be another new 75A-4.

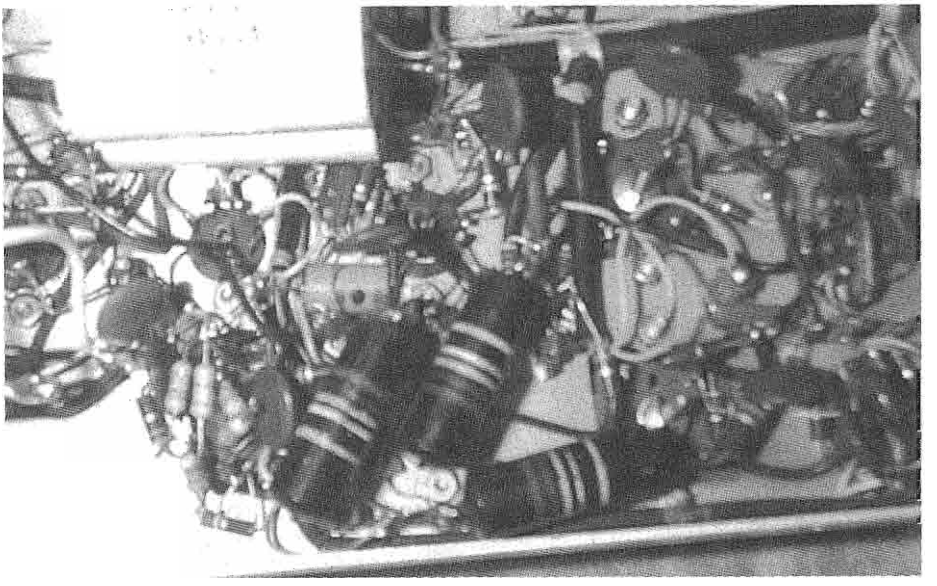
So now I was faced with the somewhat daunting task of understanding what had been done to the radio, and if necessary, reversing it. But where does one find information on mods that may have been done nearly 50 year ago? Good question, and I was about to find out. The first place I checked was QST articles from the 1950s and 60s. I have the QST collection from 1915 to 1964 on CD-ROM, which is a wonderful reference tool, but found little that matched up to my radios mods.

While looking on the QST CDs, I also posted a message about my problem to the Collins Collector's Association ("CCA") email reflector. Now, if you don't know about the fine folks on the CCA email reflector, I need to tell you how helpful they are. My initial request brought me a number of responses, all interesting and informative. I learned that the mods in question were well known, even recently documented in Electric Radio. I received several offers from fellow hams to send schematics, mod sheets, and copies of articles. One gentleman even sent me a bag of silver mica capacitors to replace what has become known as the 75A-4 "7 Deadly Caps" list, more



Components I removed from the A-4. Note the long resistor strings, electrolytic caps and large number of "black beauty" caps.

about this list later. At first I was tempted to leave the mods in place, but the quality of the workmanship and mixed reviews on the effects of the mods soon convinced me to restore the radio back to stock. I wanted to make this radio look as stock as possible, so I needed to see how the components were originally placed in the modified areas. Another A-4 to compare to side by side would be ideal, but my other A-4 was in storage. A message to the CCA reflector asking about this brought a number of digital photos of the inside



A close-up of the dreaded "black beauty" capacitors. These paper caps are a known failure point in older gear and should always be replaced during service, even if they test good.

of the radio, particularly in the area of the 2nd mixer. It was then a straightforward process to remove the mod and install the correct parts.

Wiping the brow after that one, I undertook replacement of the multi-section electrolytic cap, and the "7 Deadly Caps." These are C-34, C-52, C-68, C-75, C-81, C-101, and C-104. Also C-71, C-95, and C-96 are unreliable. It was a simple matter to install the silver micas used in the interstage coupling, and the "black beauties" were quickly replaced with orange drop caps. I took particular care to use insulated tubing on the cap leads, keeping lead dress and workmanship to Collins standards. Only later did I discover that I had made a big goof when replacing the "Black Beauties". I had used the incorrect value of caps. I had read and kept in my head that they were .01mfd when in actuality they were .1 mfd. A lesson learned, verify the value of each component you are replacing. So once again out came the soldering iron, and the process repeated itself, albeit a bit quicker this time.

With the caps out of the way, my attention turned to making this fine radio play acceptably with double sideband AM. One unique feature on the A-4 is its ability to choose between up to three mechanical filters. With the recent debut of SSB, Collins offered a number of filters for the A-4, from the 500-cycle CW filter to the 6 KC AM variant. The stock A-4 is equipped with a 3.1 KC mechanical filter. The 3.1 filter is a compromise in many respects, too wide for CW, just marginal on SSB, and really too narrow for full fidelity AM reception. Collins suggests that AM can be tuned in with the 3.1 KC filter if one selects either the upper or lower sideband, but I wanted more. I wanted true double sideband AM reception. The options for finding the desired 6 KC filter were few. I could look for a "vintage" filter, now nearly 50-years old, or purchase a new one. I have to suspect that anything "mechani-

cal" must have some degradation after 50 years of service, so I opted for the new choice, a fresh Dave Curry Longwave Filter from Electric Radio. As the audio was later to prove, this was both an excellent choice and value.

The last step in this effort was to address the cosmetic condition of the receiver. Cleaning a 50-year-old radio is not an easy task. One wants to do a through job and yet not damage the paintwork or disturb the silk-screened lettering on the front panel. Based on the collective input of others and my own trial and error, I have developed a comprehensive cleaning process that really seems to bring this old gear back to life. The cabinet was the first item to be addressed. The black crackle finish, tainted with nicotine, was treated to a liberal coating of Go-Jo hand cleaner. If you use this cleaner, be certain to get the type without pumice. During cleaning, it never fails to amaze me how much dirt and grime can be found hiding in black crackle paintwork. With its textured surface, the hills and valleys of these finishes have a Velcro-like hold on the dirt and dust. Once the Go-Jo cleaner was rinsed off, carrying with it yellow streams of pungent nicotine, I treated the freshly cleaned paint to a light overspray of Wurth Cockpit Cleaner, a product originally intended for use on auto interiors. With the exterior looking like new, it was time to turn my attention to the inside. Fortunately, this A-4 had a very clean chassis, and all that was necessary was a through cleaning with Windex, followed by a light wipe down with WD-40 to prevent corrosion. A few evenings of work and the dust and debris from nearly half a century were gone, and the old radio looked like the day it came off the assembly line.

With the cabinet and chassis fresh and shiny, the moment of truth was now at hand. How would my countless hours of handiwork, the numerous fresh capacitors, resistors, and fancy new mechanical filter all work? Making certain the correct fuse was installed, just in case, I cautiously turned the 75A-4's power switch on, watching for signs of telltale sign of smoke and the dreaded frying noise that accompanies a component giving up the ghost. To my delight, and perhaps astonishment, the tube filaments began to glow and shortly a soft hum emanated from the speaker, just as it should. Encouraged, I connected my test antenna— a 5 foot length of wire lying on the test bench— to the receiver's antenna terminals. The moment of truth was at hand as I reached out and turned the band switch down to 160 meters. On 160 I knew I could just catch the top of the AM broadcast band, and hoped to snag my favorite "big band" station, 1490 WBCI. I slowly turned the tuning knob down toward the bottom of the band. The dial calibration was not quite right, but after some tweaking and tuning the melodious sounds of Nat King Cole's "Unforgettable" emanated from the A-4's speaker, perhaps for first time in decades.

For me, there are few things that can compare to bringing back to life a radio that has been sitting dead for 10, 15 or 20 years. Repairing an old radio is really a never-ending project, and in the coming weeks I discovered and quickly repaired other faults; a tube here, a resistor there, a potentiometer that crackled when turning. But for me, it is these little tweaks and fixes that I find most gratifying. Sure, I still have to do the dial calibration and the RF and IF alignments, but for right now, I think I'll just sit back and listen to some music from my 50 year old time machine.

73, Bruce, W1UJR

ER

Ladder Lines and Knife Switches

by Brian K. Harris, WA5UEK
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Like many, I employ a ladder line fed antenna. Because I live where thunderstorms are common and often severe, I felt that having a means of disconnecting the antenna from my equipment would be prudent. Accordingly, several years ago I installed a pair of knife switches, one where the antenna feedline enters my house and one in my shack. The outside switch routes the feedline into the house or to ground. The inside switch merely breaks the feedline. Whether either switch will actually prevent or minimize damage from a direct lightning strike remains to be seen, but their presence makes me feel better.

Since installing these switches I have operated a variety of transmitters, ranging in peak output power from 10 to 1500 watts. While the majority of my operation has been with AM transmitters having carriers in the 25-375 watt range, I have also used my Johnson Kilowatt in lengthy AM transmissions. With this in mind, I did not anticipate any problems using the existing antenna system with a recently purchased KW-1.

Being eager to use the KW-1, I neglected to connect a modulation monitor before I put it on the air. As I was 'flying blind,' I only lightly modulated the big rig. After my hour-plus QSO ended I temporarily connected an oscilloscope to a multi-turn loop I normally use to obtain a little RF for a frequency counter. This loop circles one side of the ladder line and is positioned immediately adjacent to the inside knife switch. Upon keying the transmitter again I had no signal at the scope so I checked the loop and found one end had broken loose from its female BNC connector.

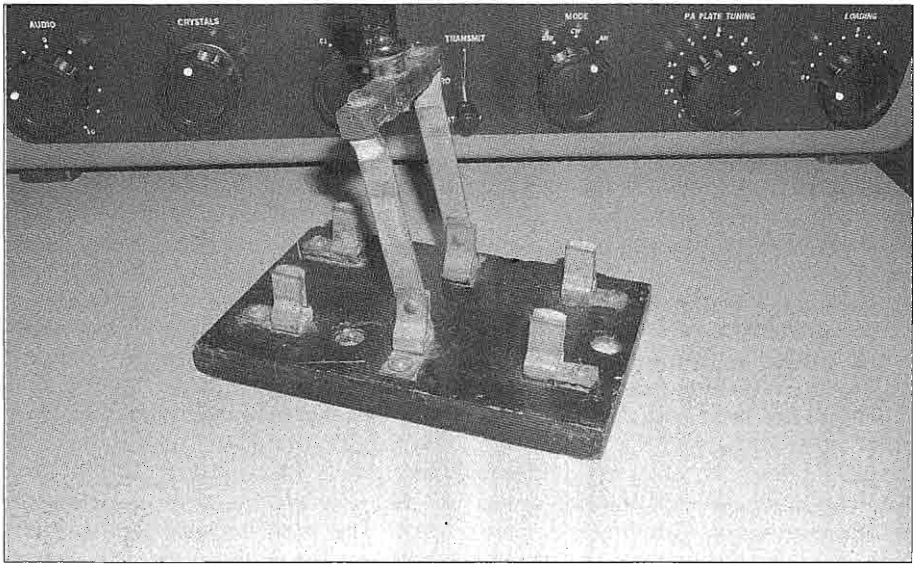
As I was removing the loop to solder the broken connection I happened to touch the knife switch and was surprised to find both its base and its metal components extremely warm. Actually, the base was so hot that I don't know that I could have held it in my hand for long. "How strange," I thought to myself. A quick check of the outside switch revealed its white ceramic base and hardware were at ambient temperature. This made me suspect the base material of the inside switch had a problem with RF. A junk box search revealed a suitable switch with a ceramic base so I went about replacing the still warm switch and repairing the broken loop. Naturally, I checked the new switch, and I am happy to report it is quite comfortable with any power I throw at it.

So, why did the original switch get hot? The problem was definitely not with its copper hardware as it is much larger than that of the other switches and looks as if it can handle 30 amps or more. The next day, to confirm my suspicion about the base material's RF problem, I removed the hardware and placed the base, along with two cups of water, in my microwave oven and set the timer for ten minutes. In nine minutes an odor told me the oven's contents were hot. As I got close to the microwave I also could tell from the abnormal heat coming from its back that it was not too happy with its load. The result? The switch base was so hot I could not touch it without using an

oven mitt. Fortunately the microwave still works.

If I knew the nature of the base material I might be able to explain why it heats up in the presence of RF. Unfortunately, all I know is that it is heavy, hard, feels like slate or baked clay and, according to my Megger (tm), has a DC resistance greater than 20 megohms. I shudder to think how hot a smaller switch of the same material might have become under the same conditions, as a smaller one could not dissipate the heat as well. Lest anyone else potentially put their shack, home or life in jeopardy, I would advise a microwave check of any non-ceramic knife switch base that's destined for an RF application.

Something else I noticed was that my Kilowatt Matchbox required adjustment after I installed the new switch. While this may have been as result of the removal of the RF-unfriendly base material, I suspect it was due to reduction of the impedance bump the wider switch introduced.



Here is the culprit, the knife switch with an RF-conductive base.

ER

VINTAGE NETS

Nets that are underlined are either new, or have changed times or frequencies since the last issue.

Arizona AM Nets: Sat & Sun: 160M 1885 Kc at sunrise. 75M 3855 Kc at 6 AM MST. 40M 7293 Kc 10AM MST. 6M 50.4 Mc Sat. at 8 PM MST. Tuesday: 2M 144.45 7:30 PM MST.

Boatanchors CW Group: 3546.5, 7050, 7147, 10120, 14050 Kc. Check 80 winter nights, 40 summer nights, 20 and 30 meters day. Nightly informal net about 0200-0400 UTC. QNI "CQ BA" or "CQ GB".

California Early Bird Net: Saturday mornings at 8 AM PST on 3870.

California Vintage SSB Net: Sunday mornings at 8AM PST on 3860 +/-

Colorado Morning Net: An informal group of AM'ers get together on 3875 Kc Monday, Wednesday, Friday, Saturday, and Sunday at 7 AM MT.

Canadian Boatanchor Net: Meets Saturday afternoon on 3745 Kc at 3:00 PM EST.

Collins Collectors Association Nets: Technical/swap sessions meet every Sunday on 14.263 Mc at 2000Z. A long-established net run by call areas. Informal ragchew nets meet Tuesday evening on 3805 Kc at 2100 Eastern time, and Thursday on 3875 Kc. West Coast 75 M net is on 3895 at 2000 Pacific time.

Collins Collector Association Monthly AM Night: Meets the first Wednesday of each month on 3880 Kc starting at 2000 CST, or 0200 UTC. All AM stations are welcome.

Collins Radio Association nets: Mon. & Wed. 0100Z on 3805 kc., also Sat 1700Z on 14.250 Mc.

Drake Technical Net: Meets Sundays on 7238 Kc, 2000Z. Hosted by John (KB9AT),Jeff (WA8SAJ) and Mark (WBØIQK).

Drake Users Net: This group gets together on 3865 Kc, Tuesday nights at 8 PM Eastern Time. Net controls are Gary (KG4D), Don (W8NS), and Dan (WA4SDE)

DX-60 Net: This net meets on 3880 Kc at 0800 AM, Eastern Time on Sundays. Net control is Jim (N8LUV), with alternates. The net is all about entry-level AM rigs like the Heath DX-60.

Eastern AM Swap Net: Thursday evenings on 3885 Kc at 7:30 PM Eastern Time. Net is for exchange of AM related equipment only.

Eastcoast Military Net: Check Saturday mornings on 3885 Kc +/- QRM. Net control station is W3PWW, Ted. It isn't necessary to check in with military gear, but that is what this net is all about.

Fort Wayne Area 6-Meter AM net: Meets nightly at 7 PM Eastern Time on 50.58 Mc. This is another long-time net, meeting since the late '50s. Most members use vintage or homebrew gear.

Gray Hair Net: The oldest (or at least one of the oldest at 44+ years) 160 meter AM nets. Net time is Tuesday evening on 1945 Kc at 8:00 PM EST and 8:30 EDT. Also check www.hamelectronics.com/ghn

Hallicrafters Collectors Association Net: Sunday on 14.293 Mc, 1730-1845 UTC. Control op varies. Mid-west net Sat. 7280 Kc 1700Z. Control op Jim (WB8DML). Pacific Northwest net Sunday 7220 Kc at 2200Z. Control op Dennis (VE7DH).

K1JCL 6-meter AM repeater: Operates 50.4 Mc in, 50.4 Mc out. Repeater QTH is Connecticut.

K6HQI Memorial Twenty Meter Net: This flagship 20 meter net on 14.286 Mc has been in continuous operation for at least 20 years. It starts at 5:00 PM Pacific Time and goes for about 2 hours.

Midwest Classic Radio Net: Meeting Saturday morning on 3885 Kc at 7:30 AM, Central Time. Only AM checkins are allowed. Swap and sale, hamfest info, and technical help are frequent topics. Control op is Rob (WA9ZTY).

MOKAM AM'ers 1500Z Mon. thru Fri. on 3885 kc. A ragchew net open to all interested in old equipment.

Northwest AM Net: AM activity is daily 3 PM to 5 PM on 3875 Kc. The same group meets on 6 meters at 50.4 Mc. Times are Sundays and Wednesdays at 8:00 PM. 2 Meters Tues. and Thurs. at 8:00 PM on 144.4 Mc. The formal AM net and swap session is on 3875 Kc, Sundays at 3 PM.

Nostalgia/Hi-Fi Net: Started in 1978, this net meets Friday at 7 PM Pacific Time on 1930 Kc.

Old Buzzards Net: Daily at 10 AM local time on 3945 Kc in the New England area. Listen for net hosts George (W1GAC) and Paul (W1ECO).

Southeast Swap Net: Tuesday at 7:30 PM Eastern Time on 3885 Kc. Net controls are Andy (WA4KCY) and Sam (KF4TXQ). Group also meets Sunday on 3885 Kc at 2 PM Eastern Time.

Southern Calif. Sunday Morning 6 Meter AM Net: 10 AM on 50.4 Mc. Net control op is Will (AA6DD).

Swan Nets: User's Group meets Sunday at 4 PM Central Time on 14.250 Mc. Net control op is usually Dean (WA9AZK). Technical Net is Sat, 7235 kc, 1900Z. Net control is Stu (K4BOV)

Vintage SSB Net: Sunday 2100Z 14.293 & 0300Z Wednesday. Net control Lynn (K5LYN) and Andy (WBØSNF)

West Coast AMI Net: 3870 kc, Wed. 8PM Pacific Time (winter). Net control rotates between Skip (K6YKZ), DJ (K6RCL), Don (W6BCN), Bill (N6PY) & Vic (KF6RIP)

Westcoast Military Radio Collectors Net: Meets Saturday at 2130 Pacific Time on 3980 Kc +/- QRM. Net control op is Dennis (W7QHO).

Wireless Set No. 19 Net: Meets the second Sunday of every month on 7270 Kc (+/- 25 Kc) at 1800Z. Alternate frequency is 3760 Kc, +/- 25 Kc. Net control op is Dave (VA3ORP).

Military Radio Collector's Group 8th Annual Meet

The eighth annual meeting of the Military Radio Collectors Group (MRCG) will be hosted by the Fort MacArthur Military Museum, San Pedro, CA, on Friday, Saturday and Sunday, May 2, 3 and 4, 2003. San Pedro is located on the south side of Los Angeles adjacent to the harbor. The Museum will be monitoring 51.0 MHz and 146.52 MHz (call W7QHO/6) to assist arriving participants. This year's event will formally begin at 0800 Friday morning when the gates to the park open, and early arrivals are welcome Thursday afternoon as in previous years.

Secured areas for equipment operation and display will be available within the Fort's complex of bunkers and underground corridors and there is ample room on the museum grounds to accommodate out of doors activities. Participants are encouraged to bring equipment and set up working displays and demonstrations.

Friday and Saturday will be devoted to equipment setup and display, operating events, and informal get-togethers on the museum grounds. Special activities will include heliograph and signal light demonstrations and six meter fox hunts. Several technical sessions and lectures will also be scheduled over this period, including presentations on Soviet and British radio equipment and our own ART-13, among other topics.

The equipment judging program introduced in previous years will be managed by Rian Robison (W6SVU), 562-421-7213.

Equipment and parts swapping activities are encouraged throughout the meet and, in addition, Sunday morning 0600 - 1000 has been cleared specifically for this purpose. The meet will officially end at the conclusion of this activity.

There are numerous eating establishments in the area. For Friday and Saturday lunch we have also arranged for sandwich and pizza orders to be delivered from local establishments (pay as you go). A BBQ dinner will be served Friday evening in the courtyard area at the Fort. Meal tickets for the latter event will be available for $10 Friday and Saturday at the site.

Caution: Alcohol and beer are not allowed as part of our meeting.

A wide selection of commercial lodging choices are available in the San Pedro area (see below). Rooms are also available at a youth hostel adjacent to the museum for $18 - $45 per night (call 310-831-8109). Camping and RVs are allowed at no charge on the museum grounds, but there are no hookups and bathroom facilities are limited. Advance reservations are not required.

There are no admission charges for this event, but a fair share contribution of $5.00 is requested from each participant. Funds remaining after all expenses are met will be donated to the Fort MacArthur Museum Association.

For more detailed information including driving instructions go to the MRCG web site: http://www.syzen.com/milradio/

Points of Contact

Dennis DuVall, W7QHO,
(818)240-7907,
w7qho@aol.com
Bart Rowlett
(310)408-4387
bart@wb6hqk.ampr.org
Rian Robison, W6SVU, (Equipment Judging)
(562)421-7213)
krrobison@earthlink.net
Fort MacArthur Museum
(310) 548-2631
http://www.ftmac.org/index.html
San Pedro (general): http://www.sanpedro.com/
Restaurants: http://www.sanpedro.com/spcom/restur.htm
Hotels and Motels: http://www.sanpedro.com/spcom/hotlodg.htm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FOR SALE: Repair and restoration on all vintage equipment; 45 years experience. Barney Wooters, W5KSO, 8303 E. Mansfield Ave., Denver, CO 80237. (303) 770-5314

FOR SALE/TRADE: One-of-a-kind, new, Navy GF12/RU17 radio installation. Receiver, transmitter, racks, dynamotor, all control and junction boxes, remotes, connectors, fittings, accessories, test meter, spare tubes, all coils, book. Most in original boxes. Sell or trade for operational BC-191/375. K3HVG, jeepp@erols.com 301-831-6022

FOR SALE: Transmitters: Collins 32V-2 (1), Johnson Ranger (1), Heathkit DX-100 (1), Heathkit Apache (2), Receivers: Collins 75A-4 (1), National HRO-60 with outboard matching speaker (1) Heathkit Mohawk (1) Will sell as lot only. $3000. Pick up only. Harrisonburg, VA. wx4c@msn.com Cell: 717 385 5535.

FOR SALE: Conar model 202 freq. counter kit OTO 125.239 kc $35.00 Jim KB8RIT 906-293-3318.

FOR SALE: Receivers, very clean. Hallicrafters SX-24, R47/ARR7. National NC-183D, NC 1-10., Collins R-392, RME 69. Stoddart NM-22A. Stuart T. Carter II, W4NHC, FL 321-727-3015

FOR SALE: KWM-2A plug-in relays K2 & K4 manufactured by Allied Signal, P/N T163-6C-115D and T163-4C-115D. $35.00 for a set + $3.85 priority mail. Mike Hutnick, 450 Riverview Ave., Bloomsburg PA, 17815, hutnick@epix.net

FOR SALE: Collins 32V-3 $500, Collins 75A-2 $500, Collins R-388 $400, Hallicrafters SX-62 $225, Hammarlund SP-600 $400, Hallicrafters HT-37 $150, Valiant 1 $250, BC-348-L $125, Hallicrafters SX-24 $225. 254-776-7357 AFTER 6 PM CST

FOR SALE: Galena crystal radios and parts; also radio tubes. Len Gardner, 458 Two Mile Creek Rd., Tonawanda, NY 14150. email is radiolen@aol.com

FOR SALE: Wireless Set No. 19, radio + dynamotor $125.00, DZ-1 RDF rcvr & mount $30.00, CU-24/ART13 antenna capacitor $15.00, Small parts for BC-348 $5.00. Mike, 510-732-0932

FOR SALE: Vacuum fixed and variable capacitors. Details at: http://www.isquare.com/personal_pages/forsale-vacvar.htm Bob, WØYVA, Great Falls, VA. 703-450-7049.

FOR SALE: NOS: 2-NU 807s, $15 each; CRT 5UP1, $30. Dumont 1946 Oscillograph Model 247, $50. Mike Grimes, K5MLG; 3805 Appomattox Cir; Plano, Texas, 75023, (972) 867-6373. Email: grimesm@flash.net

FOR SALE: Vibroplex J-36 bug, $125; Autronic paddle, $125; McElroy Stream key "counterfeit copy", $35. Richard Prester, 131 Ridge Road, West Milford, NJ 07480. 973/728-2454. rprester@warwick.net

FOR SALE: NOS Tungsol 26Z5W as used in the R390A, $16.00 each. Electron Tube Enterprises, Box 652, Springvale ME 04083. 207-490-5870

FOR SALE: Countermeasures receiving set AN/WLR-1D, 50-10750 MHz, 9 bands, simultaneous display of frequency, spectrum, and modulation info on dual displays, manual, 1200 lbs, $4,500.00. Carl Bloom, 714-639-1679, 3778111@mcimail.com

FOR SALE: Naval Receivers, RAK, RAL, RAO, RBA, RBB, RBC, RBL, RBM. Some checked, pwr splys available. $75.00-$450.00 depending on condx. Many other types. Carl Bloom, 714-639-1679 3778111@mcimail.com

FOR SALE: Dynamotor overhaul kits (NOS) for DM-34 & DM-35 $15.00 ppd. Bruce Beckeney, 5472 Timberway Dr., Presque Isle, MI 49777, 989-595-6483

FOR SALE: Plans reprinted from 1936/1943 Gernsback "Radio-Craft" for simple vacuum tube "Magic Eye" projects. Free list. Bob Ryan, 1000 S. Gilbert St., Apt 132, Hemet CA 92543-7065

FOR SALE: Authorized repairs and sales of all types of amateur radio and communications equipment, and also test equipment. Please call us at LAND AIR COMMUNICATIONS, 718-847-3090 and visit our web site: www.landaircom.com. We have over 3,000 items in inventory and carry all types of communications parts.

FOR SALE: Swan 350, $150: Heathkit SSB Filter #404-328, 2.1KHZ at 3.395KHZ, NOS $50. D. Michael, W3TS, 129 Church Lane, Halifax, PA 17032; 1-717-896-3973

FOR SALE: 525 VDC @ 500ma PS 10.5 fil by G.E. 60 pds BO WØBEI 800-500-8055 MN meter on fr 19" mtg daveschmidtke@lakes.com

FOR SALE: COLLINS PP-4765/GRC-159(V) 28V DC Pwr Sply; HEATHKIT QF-1 Q-Multiplier w/manual $20; KNIGHT P2/SWR Pwr Meter w/ manual $20; PETER DAHL Collins 516-F Solid State Conversion Kit (new) $20. K.A.Norvell, 6015 Norway Road, Dallas, TX 75230, 214-373-3973, w5kn@aol.com.

FOR SALE: Vibroplex 1919 "Blue Racer", $300; Autronic Paddle, $125; Speed-X straight key $30. Richard Prester, 131 Ridge Road, West Milford, NJ 07480. 973/728-2454. rprester@warwick.net

FOR SALE: RBZ Receiver, 5 -13 MHz, battery case, phones and body pack. $55 R. Wurtzinger, 1140 S Taylor, Oak Park, IL 60304 708-383-4579 richwurtz@juno.com

FOR SALE: Harvey Wells Bandmaster Deluxe w/working Pwr Sply & cord. Very Restorable. Larry, 818-917-4841 Lbolster@earthlink.net

FOR SALE: Johnson Ranger I, extra clean, works perfect, no mods, original mic and manual copy. Jim, K7BTB, AZ 928-635-2117

FOR SALE: 132- QST magazines from 1938 to 1957 $60.00 plus shipping. 9- Electric Radio Magazines $12.00 plus shipping. 12- CQ Magazines, complete 2002 $12.00 plus shipping. Alan Lurie, W9KCB, 605 East Armstrong Ave., Peoria, IL, 61603. 309-682-1674

FOR SALE: one HTX-100 $45.00, one HTX-252 $45.00, one GCR-109 $45.00 **WANTED:** one SB-300 Heathkit. James P. Barton, POB 417, Burke SD, 57523

FOR SALE: Gonset G-66B & G-77 $40.00 each. WANTED: 803, 813 tubes & sockets. W7ISJ, POB 18436, Tucson AZ, 85731, 520-886-3087

FOR SALE: General Radio 1208-B, 1211-13 Oscillators, 1201-C Pwr Sply. $35.00 for all plus shipping. Ken, 2309 N. 51st St. Waco TX 76710

FOR SALE: 3 Military units BC-603 FM rcvr, Freq 20-27 mc. Price incl. ship. $55.00 each. Call 305-745-1801 3PM-9PM EST

FOR SALE: Drake TR-4 & RV-4 w/ manual-Exc condx. Robert Braza, W1RMB, (MA), 508-261-8231

FOR SALE: Collins 4:1 knobs, guaranteed satisfaction. $55.00 + shipping. Dutch WB7DYW 832-549-1540 wb7dyw@ev1.net http://users2.ev1.net/~wb7dyw/4to1knob.jpg

FOR SALE: Porcelain-based Tx tubes, send SASE for list. W7SC, 3932 S. Mesa View Ln, Boise ID, 83706-6052

FOR SALE: RF-403 VHF Radio $75.00. Meisner Signal Shifter w/coil set $150.00. Al Jenkins, WA1RWB, 5 Daley Ct., Nantucket MA 02554, 508-325-7122

FOR SALE/TRADE: Original manuals; Hammarlund HQ-100, HQ-110A, HQ-145, HXL-1, SP-600-J/JX. A.J. Bernard, NI4Q, PO Box 690098, Orlando, FL 32869-0098, 407-351-5536

FOR SALE: 1942 RCAF AR-6, Exc condx, $350.00. See Dec 2001 ER. WA9IYF, 703-876-8419

FOR SALE: First user friendly circuit for early BC-348's! Send $4.00 + .37 US stamp + business envelope. Ray Larson, 12241 ½ Gorham Ave., W. Los Angeles CA 90049-5214

FOR SALE: Leeds & Northrup multi range potentiometer no model #, in square case w/lid, 8 in. cube $55.00. Tester Sencore beta calibrator model TR 139 A/O $35.00. Hallicrafters model S-40A & B @ 9 Ea $90.00. Weston Electric Resistor model 744 Type 5-I $35.00, Tubes 816 NIB 2 GE, 2 RCA $15.00 ea. Bernie Samek, 113 Old Palmer Rd, Brimfield MA 01010, 413-245-7174 FAX 0441. NOTICE: If I don't return your call, please call again because message was garbled on my machine or I copied wrong.

FOR SALE: Radio books, magazines, catalogs, manuals (copies), radios, hi-fi, parts. Send 2 stamp, LSASE. David Crowell, KA1EDP, 40 Briarwood Rd., North Scituate, RI 02857. ka1edp@juno.com

FOR SALE: 1942 Royal Canadian Air Force AR6, EC, $350.00. See December 2001 ER. WA9IYF, 3429 Gaddy Ct., FLLS CH, VA 22042 703-876-8419

FOR SALE: Collins Radio stock certificates, 33 avail, 10-share (green) or 100-share (blue), issued to various companies. $20.00 each, limit one per customer. Check or MO. No choice on color. William O. Dean, KC7ICH, PO Box 3105, Tonopah, NV, 89049

FOR SALE: New Ranger 1, Valiant 1, & Navigator plastic dials, freq numbers in green, with all the holes just like orig. - $17.50 ppd. Bruce Kryder, W4LWW, 277 Mallory Station Dr., Ste. 109, Franklin, TN 37067. bak@provisiontools.com

FOR SALE: Military Radio manuals, origs & reprints. List for address label & $1. For specific requests, feel free to write or (best) email. Robert Downs, 2027 Mapleton Dr., Houston, TX 77043, wa5cab@cs.com

FOR SALE: Communications Receivers, Military Communications and some test equipment. SASE, Don Jeffery, 131 North Ivy Ave., Monrovia CA, 91016, boallan@aol.com

FOR SALE: New Collins winged lapel pin, still have meatball version, either type - $5.95 + .75 s/h. W6ZZ, 1362 Via Rancho Prky, Escondido, CA 92029. (760) 747-8710

FOR SALE: Send SASE for large list of excess parts. Publications, ham & test gear. K4AFW, 104 Glenwood Dr., Williamsburg, VA 23185

FOR SALE: Vintage Radio Service. We repair radios, record changers, radios home, auto, tube & transistors. 1930-1980. Ken Hubbard, KA9WRN, POB 792, Beloit, WI 53512. (608) 362-1896

FOR SALE: Repro Nameplates, R-390A generic $9, S1J-3 and S1J-4 exact replicas, $12. Tom Marcotte, N5OFF, 210 Clem Dr., Lafayette, LA.70503. courir@yahoo.com

FOR SALE: Used technical books: radio, electronics, math, military, magazines, etc. List: $1 (stamps OK). Softwave, 2 Dept. ER, 1515 Sashabaw, Ortonville, MI 48462

FOR SALE: R.L. Drake repair and reconditioning, most models including TR-7's, 35 years experience. Jeff Covelli, WA8SAJ, (440)-951-6406 **AFTER 4 PM**, wa8saj@ncweb.com

NOTICE: Visit Radioing.com, dedicated to traditional ham radio & vintage radio resources. Let's Radio! Charlie, W5AM. http://www.radioing.com.

FOR SALE: Heath Nostalgia, 124 PG book contains history, pictures, many stories by longtime Heath employees. (See BOOKS inside back cover.) Terry Perdue, 18617 65th Ct., NE, Kenmore, WA 98028

FOR SALE: DX-35, DX-40 \reproduction crystal doors. $11.50 shipped. Texans add 8.25% sales tax. Glen Zook, 410 Lawndale Dr., Richardson, TX 75080

FOR SALE: TX'ers, rcvrs, parts, manuals, etc. Send a large SASE. More at http://come.to/AF4K/ Brian Carling, 117 Sterling Pine Street, Sanford, FL 32773 Brian Carling, AF4K, 117 Sterling Pine St., Sanford, FL 32773.

FOR SALE/TRADE: Transmitting/Receiving tubes, new & used. $0.55 & LSASE for list. I collect old & unique tubes of any type. **WANTED:** Taylor and Heintz-Kaufman types and large tubes from the old Eimac line; 152T through 2000T for display. John H. Walker Jr., 13406 W. 128th Terr. Overland Park, KS 66213. PH: 913- 782-6455, Email: jhwalker@prodigy.net

FOR SALE: Treasurers from the closet! Go to www.cjpworld.com/micromart to find some unique items many hams would lust for! Gus, WA, 360-699-0038 gus@wa-net.com

FOR SALE: Books, send SASE. **WANTED:** Anything by Fairchild or Langevin. send SASE for my want list. Richard Robinson POB 1425 Wallingford CT 06492, 203-949-0871 or richmix@erols.com

FOR SALE/TRADE: Misc. parts, tubes, for tube gear. Sandy Blaize W5TVW, 40460 Edgar Traylor Rd., Hammond LA 70403. ebjr@i-55.com

FOR SALE: Vintage equipment at the K8CX Ham Gallery Classified Ads section. Visit the largest Antique QSL Card Gallery http:// / hamgallery.com

NOTICE: T-368 Registry. For info w2zr@ao1.com Subscribe to the T-368 & BC-610 reflector at http://groups.yahoo.com/group/T-368_BC-610

FOR SALE: Lots of old radio & related books. Eugene Rippen, WB6SZS, www.muchstuff.com

FOR SALE: Strong steatite antenna insulators. Lengths from two to fifteen inches. SASE for list. John Etter, W2ER, 16 Fairline Dr., East Quogue, NY 11942. 516-653-535

FOR SALE: Please visit RadioWorld-Online.Come to see our ham gear, parts, and more. Carl Blomstran PO Box 890473 Houston Tx. 281-660-4571.

FOR SALE: Aluminum knob inlays, Collins, Drake, National, Hallicrafters, Heath; Collins Dial Drum Overlays. Charlie Talbott, 13192 Pinnacle Ln, Leesburg VA 20176 540-822-5643, k3ich@arrl.net

FOR SALE: Some unused obsolete Triplett tester transformers. Free List. Bigelow Electronics, POB 125, Bluffton, OH 45817-0125

FOR SALE: VM parts, new-boxed electron tubes, new Heathkit parts, and new panel meters. Norm, 1440 Milton St., Benton Harbor, MI 49022

FOR SALE: Build your own "Midget" bug replication by KØYQX, ca 1918, featured by K4TWJ in CQ Magazine, May '98. 10 detailed blueprints. FAX: 507- 345-8626 or e-mail bugs@mnic.net

FOR SALE: Parts, tubes, books, ECT. Send two stamp SASE or email for list. Wayne LeTourneau, POB 62, Wannaska, MN 56761 wb0cte@arrl.net

FOR SALE: New and used early radio and collector tubes. See www.fathauer.com for lists or email tubes@qwest.net. George H. Fathauer & Assoc., 688 W. First St. Ste 4, Tempe, AZ 85281, 480-968-7686. Toll Free 877-307-1414

FOR SALE: Collins restoration. Everything inside & out to make it as Art Collins built it. 50 yrs experience. W9OJI / N4FZ, IL, 815-734-4255 or N4PZ@aol.com

FOR SALE: Collins S-line and A-line repair. FCC licensed, many years of experience. lal@metrocast.net 207-457-9257

FOR SALE: Convert any wattmeter to read PEP! Perfect for AM/SSB-$24.95 ppd for complete kit! HI-RES, 8232 Woodview, Clarkston MI 48348, 248-391-6666, info@hi-rescom.com

FOR SALE: Complete hardware set to connect Collins PM2 to KWM2 -$19.95 ppd. Warren Hall, KØZQD, FOB 282, and Ash Grove, MO 65604-0282.

FOR SALE: Repair, upgrade, performance modification of tube communications & test equip. Accepting most military, all Collins & Drake designs, & the better efforts from others. Laboratory performance documentation on request. Work guaranteed. Chuck Felton, KDØZS, Felton Electronic Design, Box 187, Wheatland, WY 82201. 307-322-5858 feltondesign@yahoo.com

FOR SALE: Ur old QSL card? Search by call free, buy find at $3.50 ppd. Chuck, NZ5M, CRBCSI@prodigy.net

FOR SALE: New Release. For details send 2-stamp LSASE to: Olde Tyme Radio Co, 2445 Lyttonsville Rd. Ste 317, Silver Spring, MD 20910

FOR SALE: WACO-5NWX telephone filters. Just plug in. 1 /$13.95, 2/$25, 3/$34. Money back. Cecil Palmer, 4500 Timbercrest Ln., Waco, TX 76705. 254-799-5931 w5nwx@hotmail.com

FOR SALE: I built hot-rod receivers; R390A, SP-600, R-388/51J. NC-183D...and transmitters: Valiant, DX-100, T-4X-A-B, HT-32. 51J-4 filter replacements, R390A Hi-fi AM $245.00 ea. Chuck Felton, KDØZS, Wyoming, 307-322-5858, feltondesign@yahoo.com

FOR SALE: Military and commercial communications items. Murphy's Surplus, 401 N. Johnson Ave., El Cajon, CA 92020. 619-444-7717 www.Murphyjunk.com

FOR SALE: Tube list, new & used, wide variety audio, and ham. Recently expanded. SASE 52c. Bill McCombs, WBØWNQ, 10532 Bartlett Ct., Wichita, KS 67212-1212

FOR SALE: PANEL AND CABINET REFINISHING; Johnson, Hammarlund 180(a), R390(A), & others total restoration & sales; My updated web site: http://w4pnt.8k.com Patty & Dee's Marina; Dee Almquist, 534W. Main St., Waynesboro, VA 22980. 540-249-3161 Cell: 540-480-7179, FAX 540-249-5064

FOR SALE: RIT for Collins KWM-2/2A; No modifications needed. $79.95 SASE for details. John Webb, W1ETC, Box 747, Amherst NH 03031 bigspndr@bit-net.com

FOR SALE: Aluminum heat dissipating plate and grid connectors for all 3, 4 and T series Eimac tubes including 3-500Z, 4-1000, 304T's and others. Alan Price fixr7526@cs.com

FOR SALE: YAESU FT101E $250.00, DRAKE TR-4 W/ P.S. $300.00. BOTH W/ MANUALS AND GOOD CONDITION. BOB, W1RMB, (M.A.) (508) 261-8231.

FOR SALE: Many parts for radio builders please call to discuss needs. Joe Battyany, W6CAS, 1501 Sherwood Ave., Sacremento CA 916-731-8261

FOR SALE: Ships radio room clock repros, boatanchor mugs and t-shirts, more. http://www.cafeshops.com/amradio,amradio2

FOR SALE: Farnsworth BC-312HX SERIAL NUMBER 1 to be listed and sold off ebay as soon as this ad appears. Works great with Farnsworth RA supply. Search ebay "Radio Equipment; Ham Radio' for "BC-312HX" to watch or bid. TomN5ACA@juno.com 281-996-5835

FOR TRADE: Two good RCA 833A's for one Taylor 833A. Also looking for Taylor 204A, 813, TR40M. John H. Walker Jr., 13406W. 128th Terr., Overland Park, KS 66213. PH: 913-782-6455, Email: jhwalker@prodigy.net

WANTED: SCR602 components, BC-1083, BC-1084 displays, any APS-4 components. Carl Bloom, 714-639-1679, 3778111@mcimail.com

WANTED: Waters Q-Multiplier for Collins KWM-2. Claude Fleureau, F6GGF, 14 Sentier-Du-Buvier, 92130 Issy-Les-Moulineaux, France

WANTED: Anyone interested in forming an email discussion group on OS-8/U oscilloscopes please email Mike at: mikehardie@shaw.ca

WANTED: Power transformer for Collins 310B3 exciter—will buy junk unit if needed. Brian Roberts K9VKY, 130 Tara Dr., Fombell, PA 16123 (724)758-2688 k9vky@arrl.net

WANTED: Johnson Matchbox any version. Jay, 303-973-7711 Jaycarl@ldcomm.com

WANTED: Swan 240 Parts radio, Swan 117AC power supply; Frank, W4FMS 3930 Oakcrest Ct. SE; Grand Rapids, MI 49546 (616) 889-8900 or w4fms@aol.com

WANTED: Top prices paid for McMurdo Silver communications rcvrs, models 5D & 14-15. Hardy Trolander, 3 Aspen Court, Yellow Springs OH, 45387. 937-767-4551

WANTED: Marantz first power amp, uses EL39 tubes. Condx unimportant. Or pay well for photo of same. For use in upcoming "History of Audio" book. Charles Graham, 914-666-4523

WANTED: WW-2 Japanese Military Radio of any kind. Yokohama WW-2 Japanese Military Radio Museum Takashi Doi, 1-21-4,Minamidai, Seyaku, Yokohama, 246 Japan takadoi@carrot.ocn.ne.jp http://www.yokohamaradiomuseum.com/

WANTED: Clock for Hammarlund HQ-110 receiver & roller knobs any Heath tube tester. Robert Morrison, 10238 117th Lane, Live Oak, FL 32060-6716. Ph: (386) 362-1521. E-mail; rmorison@suwanneevalley.net

WANTED: Collins R-389 LF receivers, parts, documentation, anecdotes, antidotes. W5OR Don Reaves, PO Box 241455, Little Rock AR, 72223

(501) 868-1287, w5or@militaryradio.com, www.r-389.com

WANTED: I very much need your help in finding these parts for my Collins 30K: Output Coil and Switch assembly, even partial parts, Modulation transformer, Pair 75th tubes, will consider 100th, Plate blocking Cap 150mf. If you have or know the whereabouts of these parts Please help. Thanks. BOB (916) 967-7552) Ca. rbrtkj6ca@aol.com

WANTED: Kokusai 455 kcs filter for the KW 2000 series. Sold in USA by Henry Radio. Junker 2000 OK. Dave, K4JRB 770-448-0588 thompson@mindspring.com

WANTED: Drake 5-NB noise blanker and Drake AL-4 loop antenna. Bill, 507-835-8127

WANTED: Hallicrafters rcvrs SX-24, S-85, SX-99, S-110, SX-110 and HT-17 tx'er. Jerry, N5KYE, 405-373-4727

WANTED: Philmore NT-200 tx'er, Cakepanion 2-tube regen rcvr. Douglas Reeves, WB6RKY, POB 278135, Sacremento CA 95827, 916-362-3502, WB6RKY@hotmail.com

WANTED: BC-375 rotary inductor w/counter. Bill, KØRZ, POB 3214, Boulder CO, 80307-3214, 303-499-1936

WANTED: AF67 Help - bias battery, dial light. Let's talk. Thanks, Dennis Olmstead, WB9EMD, 431 Ridgewood, Glen Ellyn, IL 60137 (630) 469 0531 or Wb9emd@aol.com

WANTED: Vintage transmitting tube, T-21 tetrode or RK-49. Dick/ W6SGJ, DGEORDAN@AOL.COM

WANTED: Anything by DAVID GRIMES: radios, advertising, ephemera, stories, literature, references; please contact: Mike Grimes, K5MLG; 3805 Appomattox Cir; Plano, Texas, 75023, (972) 867-6373. Email: grimesm@flash.net

WANTED: 70-80 ft. steel crank-up tower. TN, KY, AL, W5, AZ, UT, W8, W9, WØ location preferred, others considered. Tom Berry, W5LTR, 773-262-5360 or 773-262-0016

WANTED: Schematics only for Heathkit SS-9000. Have all other info. Marvin, 770-429-0314, mmoss@mindspring.com

WANTED: Burstein Applebee FU-40 tx'er/exciter. Any condx with or w/o tuning units. Ted Bracco WØNZW, 217-857-6404 X306. braccot@hotmail.com

WANTED: Central Electronics 600L and MacKay 3010 rcvr. Cliff WA9SWE 608-625-4527 after 6 PM Central.

WANTED: BC-348 rcvr and TCS tx'er. Jerry, N5KYE, 405-373-4727

WANTED: Johnson 150D70 or National TMA150 Capacitor. Alan Dale, W9ZPP 812-424-5208 9zpp@evansville.net

WANTED: Collins 70K-2 PTO preferably in working condx. W3QII, 5899 Barnes Ave, Bethel Park PA. 15102, 412-835-7015

WANTED: Military MT-297/GR mobile mount, C-435/GRC control w/meter, C-375/VRC control box w/cable. John 440-243-8119 K8GVH1@juno.com

WANTED: James Millen plug-in coils p/n 42080, 42040, 42015, 43015. Commercial prewar transmitter. Gary Carter, WA4IAM, 1405 Sherwood Drive, Reidsville, NC 27320. Phone: 336-349-1991. Email: gcarter01@triad.rr.com.

WANTED: FADA 33, Hallicrafters spkr for SX-23, Mil TCS rcvr in gd condx. Bob Forte, PO Box 160, Lake Luzerne, NY 12846, 518-696-2400, email: forte@capital.net

WANTED: BC-375 or BC-191. 229-273-7264 W4ZXW, W. J. Hill, 510 E. 25th Ave, Cordele GA, 31015

WANTED: APS-90 Pwr Sply for Harvey Wells T90 Txer. Ed, WA7DAX, 1649 E. Stratford Ave, Salt Lake City UT 84106, 801-484-5853

WANTED: Front panel milliammeter for the Harvey-Wells T-90 Tx'er. Richard N. Pann, W1SUJ, 2447 Yates Drive, Augusta GA, 30906, 706-798-7279. rpann2@comcast.net

WANTED: 5AP4, 5BP4 or 1805-P4 CRT for my 1939 Andrea TV set. Arch Doty, W7ACD, 503-554-9142 archd@aol.com

WANTED: Power supply and connecting cable for a Harvey Wells T-90 Bandmaster Tx. Ed, WA7DAX, 1649 East Stratford Ave., Salt Lake City UT, 801-484-5853

WANTED: BC-610 transmitter within driving distance of the Twin Cities MN, Email me with information at w0ir@attbi.com

WANTED: HELP: I need information on a E.M. Sargent Co.Model 205A 5-band radio circa late 30's (?). David Miller, 307 754-4351 or K7ALR@arrl.net.

WANTED: (Badly) Harvey Radio Labs Model FT-30, 1935 Xmtr. See E. Rippon guide p.57 or FOS p.257. This was my rig back in 1941 when my call was W1NLL. If needed, I will send you a picture copy. I will pay $1000.00 plus shipping for one in almost any condition. Robert Enemark, W1EC, PO Box 1607, Duxbury MA, 02331. 781-585-6233

WANTED: TCS Army-Navy rcvr 1.5 to 20 Mc, and good manual to rework Globe King 275. WØBEI, 800-500-8055. Dave.

WANTED: Panel meter M-100 for Johnson Desk KW. 50-500 MA DC grid-modulator current. Face marked two scales. Bottom 0-50, Top 100, 200, 300, 400. Also bottom of face #796, FS=5MA, 20 ohms 100 mv. Or does anyone know how to modify the circuits for maybe two separate meters? Bob, WA6ICL, 14463 Astoria St., Sylmar CA, 818-362-7404

WANTED: Coil "C" for HRO-60. Gerald Park W8QS, 517-351-5106, park@msu.edu

WANTED: Galaxy (WRL or HyGain) LA-550 Linear, RF-550 Wattmeter, CAL-250 calibrator. All answered! Kelley, W8GFG, 9010 Marquette St., St. John IN, 46373; 219-365-4730

WANTED: Any TMC Equipment or Manuals, what have you? Will buy or trade. Brent Bailey, 109 Belcourt Dr.,Greenwood, S.C. 29649 864-227-6292 brent@emeraldis.com

WANTED: AN/WRR3-R1134 VLF receiver. Jack Holzer 913-791 5141, days

WANTED: KNOBS and front panel meters for the GRC-19 set, T-195 and R-392. Please contact Gary W5UUO, 450 Cunningham Road, Celina, TN 38551 931-243-5323 w5uuo@info-ed.com

WANTED: Westinghouse MW-2 and MW-3 transmitters and parts. Also HP Model 1727A Oscilloscope manual. Gary, WA4ODY, Seabrook TX 77586, 281-244-7695, myctpab@earthlink.net

WANTED: Manual for General Radio Co. Unit Oscillator Type 1211-C (.5-50 Mc.) Jim Eberwine, W4APV, 8118-37th Ave. North, St. Petersburg FL. 727-347-0942

WANTED: Older rigs & accessories. Brian Carling, AF4K, 117 Sterling Pine St., Sanford, FL 32773. http://come.to/AF4K/

WANTED: National NTE CW xmtr in working Condx. I love National. Sylvia Thompson, 33 Lawton Foster Rd., Hopkinton, RI 02833. (401) 377-4912. n1vj@arrl.net

WANTED: National Co. emblems, escutcheons, and logos from equipment, also National AN/WRR2 in working order. Don Barsema, 1458 Byron SE, Grand Rapids, MI 46606. (616) 451-

9874. dbarsema@prodigy.net

WANTED: Still looking for manual, schematics, trouble-shooting, RCAF Rx by TMC R-5007A/FRR5O2. David Boardman, VA2DVD, 418-877-1316 radioman@dbtubes.com

WANTED: BC-348 () rcvr w/following suffix: B, C, H, J, K, M, N, P, S, for collection. Ken Kolthoff, K8AXH, POB 215, Craig, MO 64437. 660-683-5353

WANTED: S meter for Collins S-line receiver and RF gain pot for KWM-2.Jim Jorgensen, K9RJ, 1709 Oxnard Dr., Downers Grove, IL 60516.630-852-4704. k9rj@attbi.com

WANTED: Hallicrafters SX 88 parts chassis with cabinet, power,audio output, 50khz IF and 2mhz I F transformers. Ops service manual for Eddystone EC958.. Allan, Norco CA, 310-812-0188, alan.royce@trw.com

WANTED: ARC-5 rcvrs, racks, dynamotors. Jim Hebert, 1572 Newman Ave. Lakewood, 0H 44107.

WANTED: Top prices paid for globe shape radio tubes, new or used. Send for buy list or send your list for offers. Write or email: tubes@qwest.net George H. Fathauer & Assoc., 688W. First St. Ste 4, Tempe, AZ 85281. 480-968-7686, Toll free 877-307-1414

WANTED: Old military radar displays, scopes, antennae, receivers, manuals, etc. Even half ton items! William Donzelli, 15 MacArthur Dr., Carmel, NY 10512. 847-225-2547, aw288@osfn.org

WANTED: Seeking unbuilt Heathkits, Knight kits. Gene Peroni, POB 7164, St. Davids, PA 19087. 610-293-2421

WANTED: WESTERN ELECTRIC horns, speakers, amps, and mics. Barry Nadel, POB 29303, San Francisco, CA 94129. museumofsound@earthlink.net

WANTED: Manuals, manuals, and manuals for radio-related equipment to buy or swap. Catalog available. Pete Markavage, WA2CWA, 27 Walling St., Sayreville, NJ 08872. 732-238-8964

WANTED: Collecting military electronics including radio, radar, RDF and test, manuals & literature. William Van Lennep, POB 211, Pepperell, MA 01463. 978-433-6031

WANTED: Postcards of old wireless stations; QSL cards showing pre-WWII ham shacks/equip. George, W2KRM, NY, (631) 360-9011, w2krm@optonline.net

WANTED: Stancor/Chicago PCC200, PCO/PSO15O, RC8150; Triad A-9-J, A-l0-J, A-1l-J, A-12-j. **FOR SALE:** Books, send SASE, Richard Robinson, POB 1425, Wallingford, CT 06492. 203-949-0871 richmix@erols.com

WANTED: R-390A rcvrs, parts rigs or restorable, will restore yours at reasonable prices. Walter Wilson, KK4DF, 706-733-8323 wewilson@knology.net, www.knology.net/~wewilson

WANTED: Info on xmtrs made by Clough-Brengle Co. Used by the CCC, in the mid to late 30's. Any help would be greatly appreciated. Ron Lawrence, KC4YOY, POB 3015, Matthews, NC 28106. (704) 289-1166 hm, kc4yoy@trellis.net

WANTED: QSL cards from old/pre WW II Ham DX countries; old regen kits. Hajime Suzuki, Nishikuniyoshi 1644-24, Ichihara-Shi, Chiba-Ken, 290-0231 Japan

WANTED: WW II Japanese xmtrs & rcvrs (parts, plug-in coils) for restoration & ER articles. Ken Lakin, KD6B, 63140 Britta St., Ste. C106, Bend, OR 97701. 541-923-1013. klakin@aol.com

WANTED: Collins 310B3, basket case OK - welcomed; & Chicago 500W CMS-2, high-level modulation xfmr; Taylor T21. Jerry, W8EGD, CO, 303-979-2323

WANTED: Kleinschmidt teleprinter models: 311, 321, (AN/FGC-40, AN/GGC-16, AN/UGC-39...) Tom Kleinschmidt, 506 N. Maple St., Prospect Hts., IL 60070-1321. 847-255-8128

WANTED: Visitors and tubes by museum. Old and odd amateur or commercial tubes, foreign and domestic purchased, traded or donations welcome. All correspondence answered. K6DIA, Ye Olde Transmitting Tube Museum, POB 97, Crescent City, CA 95531. 707-464-6470

WANTED: Searching for RME CT-100 or 3R9 xmtrs and info about them. David Edsall, W1TDD, 156 Sunset Ave., Amherst, MA 01002. 413-549-0349, dedsall@crocker.com

WANTED: RBB/RBC rcvrs, pwr splys, cables & RAK/RAL equip. Andy Miller, KD6TKX, CA, 831-484-2389, amillertkx@aol.com

WANTED: Orig Heath manuals for ham & test equip. Please state condx & price. Warren, K1BOX, NC, (828) 688-1922, k1box@arrl.net

WANTED: RCA 140,141, AVR5A. GE K80, K8OX, K85. Any condx. James Treherne, 11909 Chapel Rd., Clifton, VA 20124. treheme@erols.com

WANTED: ARC-2, ARR-7 and ARR-15 racks; BC1387 for BC-611; whip antenna for PRC-124. Joseph Pinner, KC5IJD, 818 Hill St., Kingston, TN 37763. kc5ijd@bellsouth.net

WANTED: WW II German, Japanese, Italian, French equipment, tubes, manuals and parts. Bob Graham, 2105 NW3Oth, Oklahoma City, OK 73112. 405-525-3376, bglcc@aol.com

WANTED: Heath Gear, unassembled kits, catalogs and manuals. Bill Robbins, 5339 Chickadee Dr., Kalamazoo, MI 49009. 616-375-7978, billrobb@net-link.net

WANTED: I wish to correspond with owners of National FB7/FBXA/AGS coil sets. Jim, KE4DSP, 108 Bayfield Dr., Brandon, FL 33511 j.c.clifford@Juno.com

WANTED: Parts for a TMC GPT-750 xmtr. I need the AM modulator deck and other parts to restore this unit. John, KF2JQ 716-873-0524 jprusso@acsu.buffalo.edu

WANTED: Collins 30K1 xmtr; also need orig manuals & literature for 75A1, 32V1, 30K1. Paul Kluwe, W8ZO, POB 84, Manchester, MI 48158. 734-428-2000

WANTED: Tektronix memorabilia & promotional literature or catalogs from 1946-1980. James True, N5ARW, POB 820, Hot Springs, AR 71902. 501-318-1844, Fax 623-8783, www.boatanchor.com

WANTED: Collins promotional literature, catalogs and manuals for the period 1933-1993. Jim Stitzinger, WA3CEX, 23800 Via Irana, Valencia, CA 91355. 661-259-2011. FAX: 661-259-3830

WANTED: DC ammeters, aircraft instruments, panel meters; meter books & gauge catalogs; photos of meters & control panels. Chris Cross, POB 94, McConnell, IL 61050.

WANTED: Scott Special Communications rcvr. EA4JL, please call, Kurt Keller, CT, 203-431-9740, k2112@earthlink.net

The Collins Video Library

The Collins KWM-2 Video (4 hours, $89.95) Highly detailed video on operation, rebuilding, alignment, troubleshooting, and neutralization of this classic! A must for anyone who owns and operates a KWM-2 or 2A. Printed documentation included.

The Collins 75S-3 and 32S-3 Video (3.5 hours, $74.95) An excellent in-depth examination of the most popular version of the S-Line equipment. Operation, modification, alignment, neutralization are covered and more! Much of this information applies to all versions of the S-Line!

The Collins 30L-1 video (1 hour, $39.95) This is a complete guide to the 30L-1 amplifier. Topics covered are operation and safety, updates, and a discussion of the classic 811A triode. Learn the secrets to greater performance.

The Collins 30S-1 video (1 hour, $39.95) Finally, here is the one everybody has wanted! This extraordinary video describes operation and user safety, maintenance and modifications of this classic Collins powerhouse amplifier. Very informative--truly a must for all 30S-1 owners. Complete with printed documentation.

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The Collins KWS-1 Video (2 hours, $39.95) This video is the perfect companion to the 75A-4 video for owners of the "Gold Dust Twins"! Butch Schartau (K0BS) shows you how to operate, maintain and repair your KWS-1. Watch as Butch goes theough the entire alignment and neutralization process, as well as showing you how to properly operate this famous transmitter.

The Collins 75A-4 Video (4 hours, $89.95) This video is four hours of great information on how to repair, maintain and restore this classic receiver. Butch Schartau (K0BS) guides you through all aspects of keeping your 75A-4 running like a top.

R-390A Video (7 hours, $109.95) At last it's available! Long awaited by serious "boatanchor" enthusiasts this is a great video all about the ultimate receiver. Now you will have the ultimate video to go along with it. R-390A expert Chuck Rippel (WA4HHG) covers an absolutely incredible array of information in this "heavy duty" video. This video looks at operation, the receiver modules, complete circuit description, front and rear panel details, complete mechanical and electrical alignment, PTO details, and performance evaluation, modifications, troubleshooting, and restoration. There is nothing like this video available today, at any price!

R390A Addendum Video ($49.95) Another 3 hours and 40 miutes of R-390A information from Chuck Rippel (WA4HHG).

SP-600JX Video (4 hours, $89.95) In this video, Chuck Rippel takes us through all aspects of SP-600-JX servicing including repairs, restoration and modifications. This video is a must for any new owner needing to work on the SP-600.

All videos are now available in PAL versions!
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Produced by Floyd Soo, W8RO (ex-KF8AT)

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WANTED: Hallicrafters SX88 or SX115. Larry Redmond, 413 Bedfort Dr., Duluth, GA 30096. 770-495-7196

FOR TRADE: ARRL publications for Greenberg collector books on Lionel Trains and accy's. Louis L. D'Antuono, 8802 Ridge Blvd, Brooklyn NY 11209. 718-748-9612, AFTER 6PM. Eastern Time

NOTICE: Congratulations to Jerry DeShong (K5ULB) for passing the Extra exam March 1, 2003 after studying for 11 days, had call K5ULB for 45 years! Be sure to congratulate Jerry when you hear him on the air!

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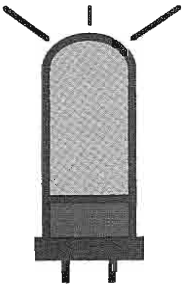

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